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INTERNATIONAL RECORD OF CLINICAL AND RESEARCH PSYCHIATRY

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Statement of Purposes

The JOURNAL OF CLINICAL AND EXPERIMENTAL PSYCHOPATHOLOGY is dedicated to the search for the fundamental factors in the etiology and pathogenesis of psychiatric disorders; to the training of an alert, progressive, and qualified psychiatric personnel; and to the stimulation and support of all phases of psychiatric service and research—biologic, chemical, psychologic, physiologic, and social.

In the pursuit of these aims, the JOURNAL OF CLINICAL AND EXPERIMENTAL PSYCHOPATHOLOGY will venture wherever the quest may lead. Its sole criterion will be the promise of an increment in the understanding of the mind's ills. It will seek, above all, to bridge national boundaries, language barriers, and the artificial demarcations of schools and trends.

The JOURNAL OF CLINICAL AND EXPERIMENTAL PSYCHOPATHOLOGY holds that there is no justification for the present discrepancy between the rich scientific technology available to psychiatry and the poverty of technics in current use in diagnosis, treatment, and research; no need for the gap between the promise of research and the paralysis of inquiry; no excuse for the lag of years between discovery and publication, demonstration and application in practice; no sound reason for the tragic chasm between the desire of the public for psychiatric education and guidance and the failure of the profession to provide the inspiration and leadership that would fully mobilize all latent potentialities. In brief, the JOURNAL OF CLINICAL AND EXPERIMENTAL PSYCHOPATHOLOGY is dedicated to the fulfillment of psychiatry as a science and a humanity devoted to the interests of all mankind.

The JOURNAL OF CLINICAL AND EXPERIMENTAL PSYCHOPATHOLOGY looks on psychiatry as an integral whole that is, in turn, an organic part of the world of science. It seeks to be not a mere sheaf of passive paper, but a dynamic organism by means of which its editorial board will endeavor to utilize every opportunity and facility in the field of human knowledge to fulfill the tasks to which it is dedicated.

JOURNAL OF CLINICAL AND EXPERIMENTAL PSYCHOPATHOLOGY

Insulin Tolerance in Schizophrenia

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INTRODUCTION

Along with other laboratory methods, the insulin tolerance tests have been used as an approach to the diagnosis and prognosis of schizophrenia. The purpose of the tests is both to determine the sensitivity of the organism to insulin and its response to an induced hypoglycemia. According to Fraser, Albright, and Smith,[1] the blood sugar normally falls to about 50 per cent of its fasting level 20 to 30 minutes after the intravenous injection of 0.1 unit of insulin per kilogram of body weight and returns to normal in 90 to 120 minutes.

Kaplan and Low[2] have found a delay in the response to insulin as well as in the return to the fasting level of blood glucose when insulin tolerance tests were performed on a group of schizophrenics. Freeman *et al*[3] also observed that schizophrenics showed a greater rigidity of response to insulin than normal. This abnormality was later confirmed by Borenz *et al*[4] and Braceland *et al.*[5]

According to some authors,[2,6] the mode of injection of insulin, intramuscular or intravenous, does not produce any significant change in the steepness of the curve of blood sugar content. It has also been shown[7] that the effect of insulin on the blood sugar level is not a stoichiometrical relationship. For instance, 6 units of insulin does not increase appreciably the rate of decline of blood sugar obtained with 3 units of insulin. Accordingly, the above mentioned method has been modified by some investigators. In their survey, Kaplan and Low[2] have used a uniform dose of 10 units given subcutaneously after a blood specimen had been drawn.

The use of the insulin tolerance test (I.T.T.) was also investigated by the latter authors as a prognosis of the average coma dose required in insulin shock therapy but without success. Borenz *et al*[4] repeated the experiment but could not find any correlation between the I.T.T. and the subsequent dose of insulin necessary to induce coma. It is now an experimental fact that the fall of blood sugar is not the main factor in producing coma.[8,9]

Furthermore, Borenz *et al*[4] could not observe any consistent changes in the test results following insulin therapy as compared with those obtained before treatment.

OBJECTIVE

The authors' interest in the problem was aroused after they had performed the I.T.T.* on 2 patients who had been particularly resistant to insulin shock treatment. Indeed, no

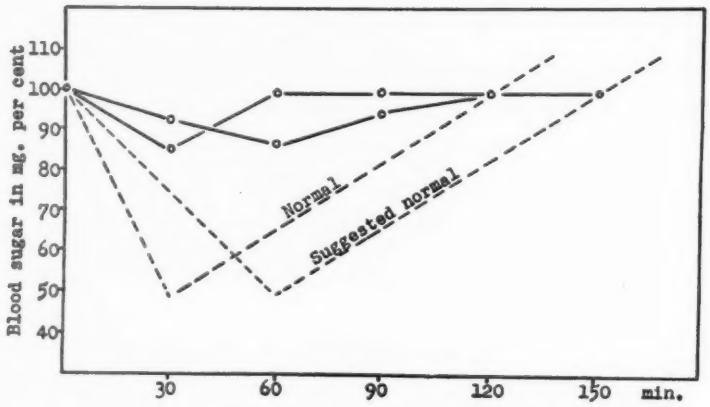

FIGURE 1. Insulin tolerance test of 2 schizophrenic patients showing unresponsiveness to insulin stimulation.

coma could be induced in either subject with doses as high as 280 and 300 units respectively. The I.T.T. curves also showed outstanding insensitiveness to insulin (Figure 1). Could the absence of correlation between the test results and the average coma dose be questioned?

Later on the authors tentatively predicted that high doses of insulin would be necessary to induce coma in 4 other patients who were awaiting insulin therapy. Their I.T.T. curves were particularly flat, suggesting a definite insulin insensitiveness. When therapy was applied, coma was finally induced in the latter 4 subjects with doses as high as 250, 240, 260 and 210 units of insulin respectively. The mean curve of the first 6 cases is illustrated in Figure 2.

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* Unless otherwise indicated, the insulin at the dose of 0.1 unit per kilogram of body weight was administered subcutaneously in an attempt to reproduce the conditions of insulin therapy. Blood glucose levels were determined according to one of the author's modification of the Benedict method.[10]

These results, which were in apparent contradiction with previous observations, seemed enough to justify an appraisal of previously described data and further investigation on the behavior of glucose metabolism in schizophrenics.

RESULTS

Response to Insulin. Subcutaneous I.T.Ts. were performed on 40 other patients who were awaiting insulin shock therapy. There were no infections or liver dysfunction, i.e., conditions in which the liver does not respond normally to its endocrine regulators. Most of the patients showed a delayed response to insulin. Maximum blood glucose fall (nadir) appeared after 60 minutes in 10 cases (Group A, Figure 2), after 90 minutes in 17 cases (Group B), and after 120 minutes in 11 cases (Group C). Only 2 patients reached maximum hypo-

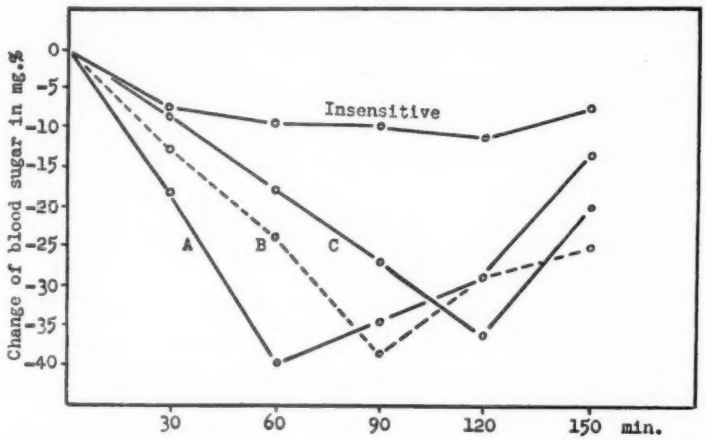

FIGURE 2. Mean insulin tolerance curves of 46 schizophrenic patients classified in four groups according to their response to insulin.

glycemia after only 30 minutes. As our tests had been performed subcutaneously, this mode of injection remained to be eliminated as a possible factor of insulin unresponsiveness. A few intravenous I.T.Ts. were performed on the patients who were still available at the time while subcutaneous I.T.Ts. were done on presumed "normal" controls. Although the number of determinations is insufficient for valid inference, it seems that when the subcutaneous method is used, the maximum fall of blood sugar appears somewhat around 60 rather than 30 minutes. Nevertheless, even by taking the 60 minute fall as normal by this method, 28 out of 40 patients (61.0 per cent) still showed a delay in response to insulin injection.

Response to Induced Hypoglycemia. There was a general tendency to a hypoglycemic unresponsiveness as illustrated in Figure 2. The rise of blood sugar was particularly slow

in Groups B and C. This is in agreement with the previous observations of other investigators.[2,5]

Relation to the Average Coma Dose. No consistent correlation could be observed between the behavior of the blood sugar during the I.T.T. and the subsequent dose of insulin necessary to induce coma. Nor could we find a constant correlation between the hypoglycemic response (rise of the I.T.T. curve) and the length of the coma, except that it was shorter in 2 cases which had returned to normal after 120 minutes. Except for the authors' very first cases of insulin insensitiveness, these negative observations were more in concordance with already published data, indicating that the fall of blood sugar under insulin stimulation is by no means an index of coma susceptibility.

The Glucose-insulin Tolerance Test (G.I.T.T.). At that time, Lazarus and Volk[11] suggested a very interesting modification of the glucose-insulin tolerance test by Himsworth.[12] Twenty-five Gm. of glucose in 50 per cent solution are given intravenously, followed after 30 minutes by 0.1 unit of insulin per kilogram of body weight, also given intravenously. The usual blood glucose determinations are performed at regular intervals. The authors performed this modified G.I.T.T. on every available patient from the original group. Four out of the six particularly insulin-insensitive subjects were still under observation. The results of the tests are expressed graphically in Figure 3. Surprisingly, both unresponsiveness towards insulin and hypoglycemia have completely vanished, even in the patients in which coma could not be induced. A few more G.I.T.Ts. performed in other schizophrenics from the

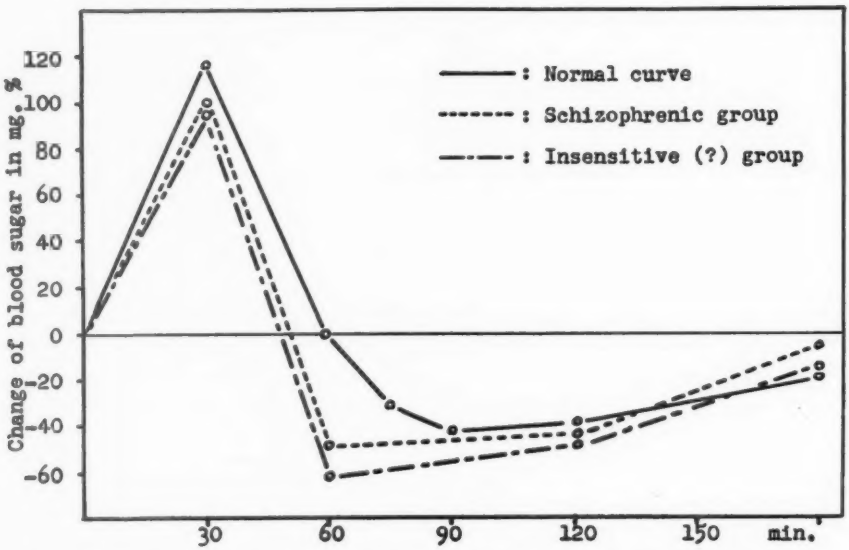

FIGURE 3. Mean glucose-insulin tolerance curves. The normal curve has been reproduced from Lazarus and Volk.[11] The so-called "insensitive" group refers to the corresponding group in FIGURE 2.

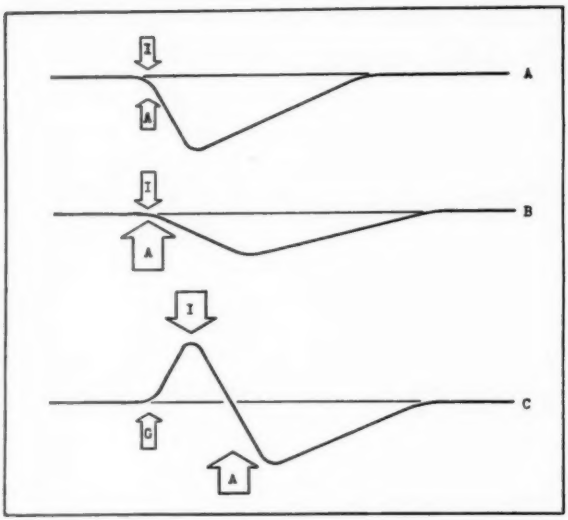

FIGURE 4. Probable mechanism of action of insulin (I) and its antagonists (A) on the blood sugar level. In the normal individual (curve A), the hypoglycemic effect of insulin is regulated by its antagonists. In the schizophrenic (curve B), the hypoglycemic effect of insulin is overcompensated by its antagonists. The absence of antagonists (curve C), during the hyperglycemic phase following the administration of glucose (G), favors the action of both endogenous and exogenous insulin.

original group revealed a normal response to insuiin as well as to an induced hypoglycemia (Figure 3).

DISCUSSION

In 1939, Kaplan and Low,[2] after performing subcutaneous I.T.Ts. on 26 schizophrenic patients, observed a definite delayed response to insulin as well as a marked prolongation of the return to normal blood glucose level. Three of their patients reached maximum hypoglycemia after 30 minutes, eight after 60 minutes, seven after 120 minutes and eight after 180 minutes. The authors' findings agree with these data.

According to Meduna *et al*[13, 14] and later Braceland *et al*,[5] the delay of action of insulin could evidently be attributed to an anti-insulin factor which was experimentally demonstrated in the blood of schizophrenics. By injecting blood serum of such patients in rabbits, most animals acquired some insulin insensitiveness. In fact it was found that 60 per cent of their subjects possessed such a factor. It is interesting to note that 61 per cent of the authors' patients had shown a definite delayed response to insulin (60 minutes and more).

Meduna *et al* further suggested that this factor was probably the pituitary glycotropic hormone, which was working in conjunction with epinephrine to counteract the effect of insulin. To support this hypothesis, they had already observed insulin insensitiveness in 1 case of pituitary disease. They also suggested that insulin therapy at high doses would be interrupting this state of dyshormonism by calling forth a greater epinephrine response out of which resulted, eventually, a more normal hormonal balance.

As Borenz *et al*[4] remarked later on, this theory presupposed a disturbance in carbohy-

drate metabolism accompanying schizophrenia which reverted to a more normal level with insulin therapy. However, their conclusion was that, whatever defects in carbohydrate metabolism had been demonstrated in the tests performed in schizophrenics, they remained unaltered during and after insulin therapy. No consistent changes could be observed in insulin tolerance and glucose tolerance tests performed before and after insulin therapy.

The effect of the anterior pituitary gland and of the adrenal glands in inhibiting the hypoglycemic action of insulin is well established.[15] According to others, the same glands would also act upon the blood restoration phase following hypoglycemia. Mirsky *et al*,[15] after performing I.T.Ts. on patients with essential hypertension, observed that the rate of decrease of blood sugar after administration of insulin was the same as in their normal controls. The response to induced hypoglycemia was, however, significantly delayed. Since insulin response was normal, it suggested that hypertensive patients did not show an increase on their anti-insulin factors. On the other hand, the delayed response to hypoglycemia could well be attributed to a decrease in the responsiveness of either the sympathicomedullo-adrenal system or of the anterior pituitary and adrenal glands. Waife[16] reached somewhat the same conclusions after observing an insulin resistance and a hypoglycemic unresponsiveness in patients with cirrhosis of the liver. Finally, Conn, Louis, and Johnston[17] have induced an increased resistance to insulin in some subjects after administration of the adrenocorticotropic hormone. In the main, the factors which counteract insulin are evidently hormones of the pituitary adrenal system.[18]

The apparent contradiction in the authors' results obtained by the I.T.T. and the G.I.T.T. could well find its explanation in one of the advantages advocated by Lazarus and Volk[11] for their modified G.I.T.T. As the body mechanisms for hyperglycemia responsiveness are set in motion by the administration of glucose before the insulin is injected, any added insulin will act in conjunction with them. Indeed, it is definitely known that hyperglycemia has an inhibitory effect on the secretion of epinephrine and, probably, also on other antagonists of insulin.[19] The observed responsiveness to insulin in apparently resistant schizophrenics, during the hyperglycemic phase of the G.I.T.T., could thus be explained by a temporary inactivation of the physiologic antagonists to insulin. During this phase, both the endogenous and exogenous insulin could exert their added effect without inhibition and induce a true hypoglycemia. Only then would the anti-insulin agents be set in motion to restore the normal balance of glycoregulation. Figure four illustrates this hypothesis. The curve of the blood sugar reflects the quantitative relationship between insulin and its antagonists in the normal individual and in the schizophrenic.

If this hypothesis should be true, the administration of a certain amount of glucose before the injection of insulin during shock therapy might alter the whole picture of apparent insulin insensitiveness in certain schizophrenics.

The more rapid response to intramuscular insulin *after the administration of glucose*, in trial cases, suggests that the mode of injection of insulin is not primarily responsible for the delay in response observed when insulin tolerance tests are performed in the fasting state. Preliminary observations seem rather to confirm the hypothesis that, in *insulin-insensitive* subjects, the insulin can exert its hypoglycemic effect with much less inhibition if admin-

istered during a hyperglycemic phase. Moreover, the failure to lessen the coma dose in *insulin-sensitive* subjects seems to support the hypothesis. Clinical possibilities of this modified technic are being investigated.

SUMMARY AND CONCLUSIONS

1. Most of the schizophrenics in the group studied showed a definite delayed response to insulin as well as to an induced hypoglycemia during the insulin tolerance test (I.T.T.).

2. No consistent correlation could be observed (a) between the response to insulin during the I.T.T. and the average coma dose necessary to induce coma during shock therapy, and (b) between the hypoglycemic response and the length of the coma.

3. When glucose-insulin tolerance tests (G.I.T.T.) were performed on the same subjects, the response to insulin as well as to the induced hypoglycemia was normal. The over-compensatory effect of the antagonists to insulin during the fasting state in certain schizophrenics is probably set aside during the primary hyperglycemic phase of the test, so that the insulin can exert its effect without inhibition.

4. The peculiar behavior of the authors' group under insulin stimulation agrees with the theory of hormonal imbalance in the etiology of most of the schizophrenias. Such dyshormonism is characterized by an overresponsiveness on part of the adrenals (Sackler–van Ophuijsen theory[9,20,21]).

5. Clinical application of this phenomenon in insulin therapy is being investigated.

ACKNOWLEDGEMENT

The authors wish to express their grateful appreciation to Doctors Raymond R. Sackler and Co Tui, of the Creedmoor Institute for Psychobiologic Studies, Creedmoor State Hospital, N. Y., for their objective criticism and helpful suggestions.

RESUMEN

La mayoría de los esquizofrénicos en el grupo estudiado en este trabajo, mostró un retraso manifiesto en la respuesta a la insulina, así como a una hipoglicemia inducida, durante la prueba de tolerancia a la insulina (P.T.T.). No pudo observarse una correlación continuada (a) entre la respuesta a la insulina durante la P.T.T. y la dosis promedio de coma, necesaria para inducir el coma durante la terapia por el choque, y (b) entre la respuesta hipoglicémica y la duroción del coma.

Cuando la prueba de la tolerancia a la glucosa-insulina (P.T.G.T.) se realizó en los mismos sujetos, la respuesta a la insulina así como a la hipoglicemia inducida, fué normal. El efecto super-compensatorio de los antagonistas a la insulina durante el período de ayuno en ciertos esquizofrénicos, probablemente no es tenido en cuenta durante la fase hiperglicémica primaria de la prueba, por lo que la insulina puede ejercer su efecto sin inhibición.

El peculiar comportamiento del grupo estudiado por los autores de este trabajo, bajo la estimulación por la insulina, está de acuerdo con la teoría del desequilibrio hormonal en la etiología de la mayoría de las esquizofrenias. Tal desequilibrio está caracterizado por una

excesiva respuesta suprarrenal (teoría de Sackler-van Ophuijsen[9, 20, 21]). La aplicación clínica de este fenómeno en la insulina, está siendo objeto de nuevas investigaciones.

RÉSUMÉ

La plupart des schizophrènes du groupe étudié ont accusé une réaction retardée et nette à l'égard de l'insuline, ainsi qu'envers une hypoglycémie provoquée au cours de l'essai de tolérance à l'insuline (I.T.T.). Aucune corrélation régulière n'a pu être observée (a) entre la réaction à l'insuline pendant le I.T.T. et la dose-coma moyenne nécessaire pour provoquer le coma pendant la thérapeutique par choc, et (b) entre la réaction hyptoglycémique et la durée du coma.

Lorsqu'on a appliqué les essais de tolérance au glucose-insuline (G.I.T.T.) aux mêmes sujets, la réaction à l'insuline ainsi qu'à l'hypoglycémie provoquée a été trouvée normale. L'effet hypercompensatoire des antagonistes à l'égard de l'insuline pendant l'état de jeûne chez certains schizophrènes est probablement écarté pendant la phase hyperglycémique primaire de l'essai, de sorte que l'insuline peut exercer son effet sans inhibition. Le comportement singulier du groupe étudié par l'auteur sous l'effet de la stimulation par l'insuline s'accorde avec la théorie du déséquilibre hormonal dans l'étiologie de la plupart des schizophrénies. Ce dyshormonisme est caractérisé par une réaction excessive de la part des capsules surrénales (théorie de Sackler-van Ophuijsen[9, 20, 21]). L'application clinique de ce phénomène pour l'insuline fait actuellement l'objet d'études.

BIBLIOGRAPHY

1. Fraser, R.; Albright, F., and Smith, P. H.: The value of the glucose tolerance test, the insulin tolerance test and the glucose-insulin tolerance test in the diagnosis of endocrinologic disorders of glucose metabolism, *J. Clin. Endocrinol.* 1:297, 1941.
2. Kaplan, M., and Low, A. A.: Glucose and insulin tolerance: relation to insulin shock therapy, *Am. J. Psychiat.* 96: 689, 1939.
3. Freeman, H.; Looney, J. M.; Hoskins, R. G., and Dyer, C. G.: Results of insulin and epinephrine tests in schizophrenia, *Arch. Neurol. & Psychiat.* 49:195, 1943.
4. Borenz, H. F.; Schuster, D. B., and Downey, G. J.: The effect of insulin shock therapy on glucose metabolism in schizophrenia, *J. Nerv. & Ment. Dis.* 110:507, 1949.
5. Braceland, F. J.; Meduna, L. J., and Vaichulis, J. A.: Delayed action of insulin in schizophrenia, *Am. J. Psychiat.* 102:108, 1945.
6. Hepler, O. E.: Manual of Clinical Laboratory Methods, Springfield, Ill., Charles C Thomas, 1949, Fourth edition.
7. Somogyi, M.: Studies of arteriovenous differences in blood sugar. III. Effect of insulin administered intravenously in the postabsorptive state, *J. Biol. Chem.* 179:217, 1949.
8. Sackler, R. R.; Sackler, M. D.; van Ophuijsen, J. H. W.; Co Tui, and Sackler, A. M.: An appraisal of the current status of histamine biochemotherapy in psychiatry and the theoretical significance of its effect. Part II of endocrinologic orientation to psychiatric disorders, *J. Clin. & Exper. Psychopath.* 12:5, 1951.

9. Sackler, M. D.; Sackler, R. R.; Sackler, A. M., and van Ophuijsen, J. H. W.: Recent biochemotherapeutic developments in psychiatry, *Am. J. Psychiat.* 108:669, 1952.
10. Nadeau, G.: Simpler methods for the average laboratory, *Canad. M. A. J.* 65:318, 1951.
11. Lazarus, S. S., and Volk, B. W.: The estimation of insulin sensitivity by the modified glucose insulin tolerance test, *J. Lab. & Clin. Med.* 39:404, 1952.
12. Himsworth, H. P.: Diabetes mellitus; its differentiation into insulin-sensitive and insulin-insensitive types, *Lancet.* 1:127, 1936.
13. Meduna, L. J.; Gerty, F. J., and Urse, V. G.: Biochemical disturbances in mental disorders. I. Anti-insulin effect of blood in cases of schizophrenia, *Arch. Neurol. & Psychiat.* 47:38, 1942.
14. Meduna, L. J.: Dyshormonism in psychoses and its correction by shock, *J. Nerv. & Ment. Dis.* 98:507, 1943.
15. Mirsky, I. A.; Kaplan, S. M.; Podore, C. J., and Broh-Kahn, R. H.: The insulin tolerance test in patients with essential hypertension, *J. Clin. Investigation.* 29:297, 1950.
16. Waife, S. O.; Brenner, L. O., and Thompson, C. M.: The insulin tolerance test in cirrhosis of the liver, *Gastroenterology.* 17:236, 1951.
17. Conn, J. W.; Louis, L. H., and Johnston, M. W.: Metabolism of uric acid, glutathione and nitrogen and excretion of 11-oxysteroids and 17-ketosteroids during induction of diabetes in man with pituitary adrenocorticotropic hormone, *J. Lab. & Clin. Med.* 34:255, 1949.
18. Somogyi, M.: Effect of insulin injections repeated at brief intervals, *Endocrinology.* 47:436, 1950.
19. Polonovski, M.: Biochimie Médicale. Masson & Cie, Paris, 1948, Fourth edition.
20. Sackler, A. M.; Sackler, M. D.; Sackler, R. R.; Co Tui, and van Ophuijsen, J. H. W.: On the pathogenesis of certain psychiatric disorders. Part V of endocrinologic orientation to psychiatric disorders, *J. Clin. & Exper. Psychopath.* 12:30, 1951.
21. Co Tui: Somatologic perspectives in psychiatric research. Part VI of endocrinologic orientation to psychiatric disorders, *J. Clin. & Exper. Psychopath.* 12:35, 1951.

The Use of the Electronarcosis Instrument for Several Types of Treatment

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AUGUSTA, GA.

Since the time when electricity was first used to produce convulsions as a therapeutic measure, the instruments for modifying the current and the methods of using them have undergone numerous changes. Some changes and innovations were made to avoid complications commonly encountered in the original E.C.T. as devised by Cerletti and Bini.[1] A unidirectional interrupted current was substituted for the alternating current to diminish confusion and the possibilities of neural damage.[2] A glissando induction was developed[3] to avoid the violent muscular contractions set off by sudden application of convulsive current in full force. Modifications of method have been made also for the purpose of achieving different effects. The treatment first reported by Cerletti and Bini soon proved itself marvelously effective in depressive disorder. Its value in schizophrenia, though sometimes impressive, is far less regular. Many believe its results in psychoneurotic disorders do not justify its use.[4]

Electronarcosis, as developed by Tietz *et al*,[5] is regarded by some observers as a genuinely different form of treatment. Some reports indicate that it is more effective in schizophrenia than ordinary convulsive therapy and that it may be applied successfully to several other disorders for which E.C.T. has not proved itself a satisfactory measure.[6,7] By another method, with the Reiter electrostimulator, nonconvulsive therapy has been administered to patients alone and in combination with modified and softened or splinted convulsive reactions.[8] Alexander,[9] among others, has reported that the nonconvulsive stimulation, in contrast with E.C.T., is valuable in treating patients with anxiety reaction. He also reports that liberal use of nonconvulsive stimulation diminishes or clears up the temporary but sometimes severe and protracted confusion caused when convulsive treatment is used alone. This mild form of electric stimulation has also been reported as effective in resuscitating patients who develop apnea or lesser respiratory difficulties from barbiturate poisoning[10] and from other causes.[11]

Some deny that the various modifications of the original E.C.T. have led to any method fundamentally different and, apparently, feel that little or nothing has been gained by these developments.

The author's experience leads him to believe that modifications have greatly reduced the violence of convulsive treatment and, hence, the risks of fracture. He has also noted an impressive diminution of confusion with the combined Reiter method, and its virtual absence in regular electronarcosis. Adequate statistical evidence for the respective values of various technics, including all forms of psychotherapy, in various psychiatric disorders is

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not available, to the author's knowledge, at the present.[12] However, the author is encouraged by the response of patients with diverse disorders, and he feels that a real extension of effective treatment may be developing through modification of methods.

Like others, the author and his colleagues have made efforts to select the type of treatment best suited to each patient and to learn which modifications prove more effective for the specific difficulties which make treatment necessary.

The more familiar of these in use at present include the Reiter method of giving a combined treatment with convulsive and nonconvulsive current,[2,13] the Brief Stimulus Therapy,[14,15] and electronarcosis, which also combines convulsive and nonconvulsive current in the treatment.[5,6,7] Each of these has provided improvements in the methods of use, the control of the clonic contractions, the reduction of post-treatment confusion, and the use of nonconvulsive stimulation. Some appreciable differences appear in the effects obtained with the Reiter, B.S.T., and electronarcosis treatments in the same patient and in different patients with the same method. Thus, it is possible to select the type of treatment best suited to the patient and, to some extent, the one most effective for the specific illness. This involves the use of at least three different machines if the instructions supplied with the machines are followed. It is possible to give several modifications of electric treatment, using only the electronarcosis instrument, with results which are comparable to those obtained with each of the other instruments.

For the convulsive treatments, the patient lies supine on a flat stretcher with thin sponge rubber mattress. A pad, made of a single size wool blanket folded to about 8 by 20 inches, is placed lengthwise under the center of the back from the lumbar curvature to the shoulders. This provides support for the lumbar and thoracic vertebral column and extends the neck to help maintain an open airway. Two webbing straps are tightened around the patient and the stretcher, one across the knees and the other across the anterior iliac spines. A sheet folded lengthwise is looped about the ankles so that an attendant, by pulling, can produce traction on the lower extremities. An attendant on each side of the patient holds down a shoulder and a wrist. Moist electrodes are applied in the bifrontal position, well forward in each temporal fossa, under an elastic headband. The patient bites firmly on a twisted and folded dental roll placed between the back teeth on each side to protect the teeth and tongue. Dentures are removed. With the electrodes in place the circuit is checked with the resistance switch. If the dial registers as much as 50 ma., the contact with the skin is satisfactory for treatment. In the same patient at different times, the reading may range from 50 ma. to 300 ma. If it is near 400 ma. it may indicate a short in the electrode cord. With the mouth closed on the dental rolls so that neither tongue nor lips are between the teeth or gums, the chin held up, the electrodes in position, pressure applied to the shoulders, and traction applied to the legs, the treatment switch is closed. As the needle returns with the glissando to 200 ma. the current is increased to 250 ma. within two or three seconds During the first five to seven seconds there is a gradual tightening of muscles. With the appearance of the extensor stretch at eight or ten seconds, the current is reduced rapidly to 5 ma. or less. Sometimes this fails to produce a convulsion, in which case the current is immediately elevated to 250 ma. for an additional three or four seconds and then lowered.

Rarely does this fail to produce a convulsion. If the clonic contractions are mild, the current is left at 5 ma. If they are stronger, the clonics are controlled partially by elevating the current moderately, adjusting the current to the patient rather than to any predetermined amount. Usually 50 to 100 ma. will hold the clonic contractions almost quiet and the current is reduced as the clonics subside. With little variation in time the patient will take the first breath before 50 seconds and respiration will continue without laryngospasm. Oxygen is used routinely, administered at the end of the clonic contractions with mask and bag, so that rapid oxygenation is attained with the first few breaths after the convulsion. This prevents most of the cyanosis and reduces the complaints of post-treatment headaches. After a few deep inspirations the oxygen mask is removed. The nonconvulsive stimulation at 5 ma. is continued to the end of the treatment. The duration of combined treatment varies from approximately 75 seconds to several minutes. (Table 1, A.)

The above procedure produces a treatment similar to the commonly used "combined Reiter treatment" with the Reiter instrument.* The initial impact of muscular contraction seems milder and there is a corresponding reduction in the incidence of fractures. The respiratory stimulation is very effective. With the 5 ma. or less of current, respiratory movements appear during the clonics and deep respiration is initiated spontaneously as soon as the larynx relaxes. The patient seems to have a great urge to breathe, and cyanosis is uncommon.

For a patient with recent fracture or history of fractures, patients with osteomyelitis, the older patient with unusually well-developed musculature, or a patient with a cardiac condition which might contraindicate convulsive treatment, the author and his staff routinely obtain partial paralysis of skeletal musculature by the use of succinyl choline dichloride,[16] maintaining respiration with the mask and bag and oxygen. This enables us to give electric treatments to patients who need them but who would not otherwise be able to take them. (Table 1, B.)

There appears to be a correlation between the length of the nonconvulsive portion of the treatment and the amount of post-treatment confusion produced. The author's experience confirms Alexander's report on this point.[9] If the nonconvulsive stimulation is continued to a total treatment time of two to four minutes in the above procedure, less confusion results. If only the convulsive stimulation is used, stopping the current when the clonic contractions subside (Table 1, C.), the confusion caused by the treatment seems to be approximately that obtained with the Brief Stimulus Therapy instrument.† Such a method is sometimes used for the first few treatments given to a badly disturbed patient in whom temporary confusion seems desirable, affording relief from frantic hyperactivity or distress. Also, not infrequently with such a patient, a second treatment of short duration is given immediately after the first, with only a minute or so of deep respiration with oxygen intervening. With amelioration of severe emotional and motor disturbance, the length of the treatment is in-

* Reiter Electrostimulator, Model CW47, Reuben Reiter, New York, N. Y.

† Liberson Brief Stimulus Therapy Apparatus, Type 735A, No. 144. Offner Electronics, Inc., Chicago, Illinois.

TABLE I

*Methods of Treatment with the Electronarcosis Instrument**

	Type of Treatment	*Premedication*	*Preset*	*Current and Time*	*Total time*	*Indications*
A.	Combined convulsive and nonconvulsive, "Reiter" type.	Atropine sulfate, 1/150 gr.†	200 ma.	250 ma. for 10 seconds. 5–100 ma. during clonics. 5 ma. after clonics for the remainder of treatment.	75 seconds to several minutes.	Routine, except when another method is indicated.
B.	Combined with succinyl choline dichloride.	Atropine sulfate 1/150 gr.† Thiopental sodium 2–4 gr.** Succinyl Choline dichloride 15–30 mg.††	200 ma.	250 ma. for 10 seconds. 5 ma. until respiration is re-established.	1½ minutes or longer.	Fracture, history of fracture, osteomyelitis, cardiac disease, older patient with strong muscles.
C.	Short convulsive, "BST" type.	Atropine sulfate 1/150 gr.†	200 ma.	250 ma. for 10 seconds. 5–50 ma. during clonics. Turned off at end of clonics.	20–40 seconds.	First few treatments for: agitated depression, melancholia, catatonia, hebephrenic schizophrenia.
D.	Nonconvulsive.	Atropine sulfate 1/150 gr.† Thiopental sodium 2–5 gr.**	5 ma.	50 ma. for 20 seconds. 10–20 ma. for 2–3 minutes (breathing with stertor). 5 ma. or less for remainder of treatment.	10–15 min.	Post-shock confusion, anxiety, arteriosclerotic or senile confusion, cortical atrophy.

* Model 107, No. 16. Electronicraft Company, Los Angeles, California.

† By intramuscular injection, ½ to 1 hour before treatment.

** By intravenous injection, just before treatment.

†† By intravenous injection, through same needle used for thiopental sodium.

creased by the use of longer nonconvulsive stimulation. Confusion, then no longer desirable, clears rapidly.

The nonconvulsive stimulation used alone (Table 1, D.) has appeared to be effective in certain cases, particularly in patients with anxiety and somatization reactions. This is also administered with the electronarcosis instrument with the electrodes applied to the temples as described above. The straps, lower extremity traction, and holding of the shoulders are not required, but a mouth gag is used for the first few minutes of the treatment. A diluted solution of thiopental sodium is given intravenously. When the wink reflex is reduced until barely perceptible, the treatment is started. Usually the patient will respond to questions at six or seven minutes. Most patients do not complain of pain, only an uncomfortable or "aggravating" feeling in their head, and sometimes of stars flying before their closed eyes, which they do not mind. Many patients will answer questions freely during the latter part of the treatment, and in some patients there is a condition resembling narcosynthesis, with the patient willing or even anxious to talk about problems or worries. After the current is turned off, a frequent response is that the patient feels "good," "relaxed," "able to think better," "like my mind had been cleared," or "better than I have felt for a long time."

In this paper, the author has reported several types or modifications of electric treatment, other than electronarcosis itself, all administered by one instrument, which was designed for electronarcosis. There are important differences in the effects of these varying methods; however, increasingly safe, appropriate, and therapeutically satisfactory technics may emerge as newer methods as a result of increasing clinical experience.

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RESUMEN

En este trabajo el autor comunica varios tipos o modificaciones de electrochoques aparte de la electronarcosis, todos ellos administrados por un instrumento especialmente creado para la electronarcosis. Se describe la administración de un tratamiento convulsivo. Parece existir una correlación entre la duración de la fase no convulsiva del tratamiento y la intensidad de la confusión que se desarrolla después del tratamiento.[9]

Existen importantes diferencias entre los efectos de los varios tipos de tratamientos eléctricos. Como resultado de la creciente experiencia clínica pueden surgir nuevas técnicas completamente satisfactorias y más seguras.

RÉSUMÉ

Dans cet article, l'auteur signale plusieurs types ou modifications de traitement électrique, autres que l'électronarcose même, tous ces traitements étant administrés par un seul instrument qui a été conçu pour l'électronarcose. Il est ensuite donné une description de l'administration d'un traitement convulsif. Il a été observé qu'il existe une corrélation entre la

longueur de la partie non-convulsive du traitement et le degré de confusion produit après le traitement. L'expérience de l'auteur confirme le rapport d'Alexander sur ce point.[9]

Il y a des différences importantes dans les effets des divers types de traitement électrique; par une expérience clinique croissante, des techniques appropriées entièrement satisfaisantes et de plus en plus sûres aboutiront vraisemblablement à de nouvelles méthodes.

BIBLIOGRAPHY

1. Cerletti, U., and Bini, L.: Electric shock in the treatment of mental diseases, *Policlinico sez. prat. 45*: 1261–1263, 1938.
2. Friedman, E., and Wilcox, P. H.: Electrostimulated convulsive doses in intact humans by means of unidirectional currents, *J. Nerv. & Ment. Dis. 96*:50–63, 1942.
3. Tietz, E. B.; Olsen, C. W., and Rosanoff, W. R.: The suppression of the motor phenomena of electroshock and electronarcosis by modification of the current level, *J. Nerv. & Ment. Dis. 109*:405–408, 1949.
4. G. A. P. Reports, Report #1, Shock Therapy. Topeka, Kansas, Published Reports, Vol. I.
5. Tietz, E. B.; Thompson, G. N.; Van Harreveld, A., and Wiersma, C. A. G.: Electronarcosis, its application and therapeutic effect in schizophrenia, *J. Nerv. & Ment. Dis. 103*:144–146, 1946.
6. Tietz, E. B.: Further experiences with electronarcosis, *J. Nerv. & Ment. Dis. 106*:150–158, 1947.
7. Tietz, E. B.: Electronarcosis, *Ann. West. Med. & Surg. 2*:562–564, 1948.
8. Hirschfield, G.: Observations with nonconvulsive electrostimulation, *Psychiat. Quart.* Supp., Part 2, 1950.
9. Alexander, Leo: Nonconvulsive electric stimulation therapy, *Am. J. Psychiat. 107*:241–250, 1950.
10. Robie, Theodore R.: Immediate treatment of barbiturate poisoning, *J. M. Soc. of N. J. 47*:370–373, 1950.
11. Zimmerman, Guy, Jr.: Electrostimulation in respiratory emergency, *J. A. M. A. 146*:1025–1026, 1951.
12. Cohen, M. E.; Robins, E.; Purtell, J. J.; Altmann, M. W., and Reid, D. E.: Excessive surgery in hysteria, *J. A. M. A. 151*:977–986, 1953.
13. Wilcox, P. H.: Electroshock therapy. A review of over 23,000 treatments using unidirectional currents, *Am. J. Psychiat. 104*:100–112, 1947.
14. Liberson, W. T.: New possibilities in electric convulsive therapy "brief stimuli" technique, Inst. of Living, Abst. & Translations. *12*:368, 1944.
15. Liberson, W. T., and Wilcox, P. H.: Electric convulsive therapy; comparison of "brief stimuli technique" with Friedman-Wilcox-Reiter technique, *Digest Neurol. & Psychiat.* Inst. of Living. *8*:292–302, 1945.
16. Moss, B. F., Jr.; Thigpen, C. H., and Robison, W. P.: Report on the use of succinyl choline dichloride (a curare-like drug) in electroconvulsive therapy, *Am. J. Psychiat. 109*:895–898, June 1953.

Fantasies in Insulin Coma Therapy
Some Psychosomatic Considerations with a Case Presentation

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Fantasy experiences, with their verbal and bodily expression, form a characteristic pattern for each patient during insulin coma therapy. As the patient enters into and emerges from his coma of each treatment period, he possesses his own individual pattern of emotional behavior. Variations in the extent of expression of such affect-laden material occur and may descriptively produce an "excited" patient during one treatment and a "quiet" patient during another. The variation occurring in both instances is one in degree of the affective expression, but the feeling on each occasion always relates a past experience to the one re-enacted in the present in an historically meaningful way. The author's observations indicate that the fantasies and their acting out produce a consistent picture, unique and personal as the patient's own likeness. One purpose of this report is to describe, through the use of an illustrative case, typical fantasy material and its behavioral concomitants. A second purpose is to reveal the relationships between the patient's verbal and pantomimic manifestations in insulin treatment to the prominent circumstances of his earlier life, and his psychosis. The third purpose is to offer the hypothesis that the combined tendency to physical and psychic discharge, occurring as an effect of hypoglycemic intoxication, is a repetitive abreaction during treatments of the central conflictual experience of the patient. The latter term represents that condensation of fantasies from persisting, intense infantile wishes and their prohibitions. The central conflictual experience is indirectly manifested pretreatment in the psychotic symptoms which in turn arose from the conflicts of the patient's earlier life. No attempt is made in this report to evaluate insulin coma as a therapy. It is assumed, nevertheless, that a meaningful number of selected schizophrenics are benefited by the treatment.

Numerous reports[1–22] have appeared on the behavior and psychic occurrences during the treatment, and some have offered theories in relation to various characteristics of the verbal productions and behavior. This has been done, however, without correlating the available evidence for the individual's fantasy experiences during treatment to the circumstances both of his psychotic and prepsychotic states. No reports, known to this writer, have dealt with the significance of the sustained, abreactive, or assimilative character of the treatment that was found to persist throughout the entire treatment. Relatively little emphasis has been placed on the historical significance of the pronounced emotional discharge that was so prominent, especially in relation to the induction into and the emergence from the coma.

The verbalizations and emotional discharges occurring during these phases appeared as re-enactments or condensed repetitions of the core of the patient's conflict, involved as it may be. During the treatment period, this observer recognized the parallel between the patient's psychotic activities pretreatment or off-treatment and basic conflicts as they have recurred during his lifetime. The patient may, for example, experience again his forbidden wishes, traumatic experiences, and frustrated strivings. Deprivations or the consequences of suffocating over-solicitousness from the parent figures may reappear again. There is convincing evidence to show that unrecognized, thwarting, and unmanageable frustrations of psychotics tend to force the balance from the dominance of reality to the dominance of the forbidden, unsatisfied, and undealt with wishes. Many detailed studies have shown that the latter wishes become the delusions of the psychosis. This has also been reported even for essentially organic states.[23] In this study the emotional discharge occurring during the treatment was considered to be accomplished through the deep insulin intoxication. Many observers have agreed with Sakel[1] on the existence of this event and have labeled it "reactivation of the psychosis," or the "reversal reaction."

The hypothesis, that the repeated emotional discharge of the patient's fantasies (delusions, dreams) occurring during the treatment period is a reproduction of those occurring either pretreatment or off-treatment, was strengthened by four empiric observations. The first was that insulin functions primarily in a physiologic way and produces a general state of intoxication. Shipley and Kant[10] made this observation and wrote:

"To the writers it appears that the combination of symptoms in (insulin coma therapy) hypoglycemia is of the kind found in every organic mental reaction. It consists, first of all, of symptoms which are primarily due to the noxious agent; this may be a brain tumor, an infectious process, or a toxic state such as hypoglycemia. These conditions uniformly give rise to clouded consciousness, delirious symptoms, memory disturbances, etc. In addition, symptoms of a more individual nature may appear; these are especially prominent in psychosis, and seem to account for the so-called reactivated psychosis. We have frequently observed, especially in catatonics, that the same patterns which had previously been present during the acute psychosis reappeared in the clouded condition of hypoglycemia."

Their belief, however, was that the physical factors in treatment were probably of more curative effect than the purely psychologic, for they wrote: "We believe that psychological factors are involved in insulin therapy, as in almost every form of medical treatment; however, that the curative effect of such a definitely physical treatment as insulin shock is purely psychological seems *a priori* rather improbable."

The hypothesis of this report, namely, that an affective discharge occurs that is fortuitously abreactive, varies from theirs on this point.

The physiologic substrate of insulin is essentially distinct from that of other "somatic" treatments, particularly electroconvulsive treatment, even though overlapping occurs as in the hypoglycemic convulsion. This particular physiologic substrate induced by insulin was thought to allow a prolonged discharge of accumulated body tensions and regressive feelings, both originating from within the psychic apparatus.[18] It was these deep levels that Scott[19] spoke of as "the psychophysical no-man's land."

The second observation supporting the hypothesis presented was that next to the abnormal physiologic state of the patient on the treatment unit, the most striking occurrence was the emotional discharge. The behavior and speech of the patient suggested, for example, the experience of a nightmare in the acting out of primitive feelings as though real. Some patients were "quiet on the outside" but as soon as communication was established with such a patient an underlying feeling-theme could be demonstrated. It appeared that all patients whether excited or quiet in their external behavior were reacting with fantasy experience as they entered or emerged from insulin coma. In no case then was the coma really quiet, but both profound psychic and physical alterations were occurring concurrently during the treatment period. These somatic alterations have been the subject of previous studies by this author and his associates.[24, 25, 26]

The third observation supporting the hypothesis of this paper was that the fantasy material of an individual in insulin coma was relatively specific. The impaired mental state permits the ascendance of repressed, painful contents with shades of feelings uniquely toned to the emotional history of each individual. The multiple and varied experiences of each patient's personality are being relived and worked out by the individual on the treatment unit. The treatment unit of this report generally had an air of acceptance, kindliness, and allowed the expression of regressive feelings. The transference phenomena that occurred on the unit in relation to the doctors, nurses, and attendants were striking, and these transference figures were fused into the experience of the fantasy.

The fourth observation, basic but often overlooked, was the need for treatments to be repeated. An extended period of time is required for the treatment to exert its effect. This was usually one to three months of third stage coma, as defined by Kalinowsky,[27] and lasting for five to fifteen minutes. This writer knows of no reports and no instances from his own experience where a patient has manifested any significant clinical response from one or even several treatments. The trend toward clinical improvement was always slow and gradual. It was over and over in this setting of repetition that the individual was enabled, it appeared, to relive his central conflictual experience, strive for mastery of it and its associated feelings, and discharge the physical tensions in relation to them. With return to consciousness, all of these concealed or unacceptable feelings would be found to be unreal, but the reality of the ward safer and more acceptable. The latter condition was fostered by positive transference relationships between patients and personnel composing the insulin unit group. It was here that feelings would become accepted and less threatening, both on the level of consciousness and below this level. The end result amounted to a more effective tolerance of the patient's fantasy life. If this were the process, it paralleled closely the events observed to occur in short term psychotherapy of the unconscious, with the exception that in insulin therapy there is no psychotherapeutic help which has been emphasized previously within its physical setting. The patient does it, or has it done, as it were, in the prepared setting of hypoglycemic intoxication.

Any understanding of the feelings experienced by a patient during insulin intoxication could only be possible during those particular phases of the insulin treatment when some communication was possible. Speech was required usually, but pantomimic behavior was

used interchangeably or alternately with speech, thus giving to the pantomime a convincing translation when it was used alone. What, if anything, of psychic significance occurs in the period of deep, quiet coma may only be surmised. Those phases of treatment when communication was possible were comparable to, *yet much more profound than*, the repeated pattern of intoxicated behavior of the alcoholic, or the pattern of emotional discharge (type of abreaction) characteristic of an individual patient under hypnosis or barbiturate narcosis. Emotional discharge under insulin hypoglycemia also resembled the abreactive feature of the traumatic neurosis. The latter has been associated with the concept of repetition compulsion by psychoanalytic writers for some time.[28,29] The existing similarities then suggested that the insulin coma effect likewise functioned prominently in accordance with the principle of the repetition compulsion. Among the several aspects of the repetition compulsion described by Bibring[30,31] and perhaps the most applicable to the purpose of this paper was the one expressed in terms of energy. This viewpoint has special relevance to understanding the concept of insulin coma therapy presented in this report. Bibring has described it as follows:

"From the energic point of view repetition compulsion is found to be a special case of the trend toward abreaction. The large quantities of energy released by traumatic stimuli are bound by anticathexis and then gradually, as the traumatic situation is repeated over and over again, discharged in fractional amounts. Under this heading fall all the dreams of persons with a neurosis due to an accident, the play of children, the manipulations of the transference situation in analysis, and so on."

Likewise, the repetitions of the conflictual fantasy material during the induction and termination phases of hypoglycemic coma may be assumed, using the material presented herein, to be the natural or innate quality of the therapeutic effect of insulin coma therapy. When benefit from insulin does not occur, the contention of its operative existence is not excluded, any more than it would be for one to consider that every traumatic neurosis will be controlled and assimilated through the repeated dreaming of the disturbing situation precipitating it. What the unknown personality assets are that enable some psychotics, through repetition, to assimilate their distorting conflicts while others are not so enabled, remains an unsolved problem. It was the observation of Freeman[15] and of this author[32] that patients whose psychotic symptomatology was characterized by obsessive-compulsive defense mechanisms did not benefit from insulin coma therapy. Such patients, in this author's experience, exhibited disabling indecision, doubting, absurd thoroughness, perfectionism, rituals (washing, dressing) and manneristic behavior. Hallucinations or well–organized delusions were absent among them. Paranoid trends, although present in this group, were not prominent. The typical reaction manifested by them was to show some immediate benefit following treatment lasting up to several hours. It was as though their inveterate pathologic processes, which were temporarily remitted, reinstated themselves again. Scott[19] was struck by the fact that well-preserved personalities often failed to do well. His impression was that the rigid structural framework of the personality was so strong that it could withstand the battering of coma.

In evaluating the characteristics of the insulin treatment experience, it was necessary to emphasize the importance of the two extended periods during each treatment when unconscious material broke through and was confused with reality. One occurred roughly during the combined "subcoma-precoma phases" as coma was being induced, and the second within the "postcoma phase" as the patient gradually returned from the state of coma to his reality.[24] During these transition periods, the patient encountered the discrepancy between his repressed unconscious fantasies and the person he wanted to know as himself. The awareness of the discrepancy between two such vastly conflicting areas resulted in the assimilation by his controlling self, or ego, of that which had been isolated from it. There resulted an abreactive turmoil, that may or may not be expressed in violent motor discharges. Whenever communication with the patient could be made, it was found that the patient was totally concerned with a characteristic feeling-theme peculiar to his own history. It may have been one of loss, of punishment, or of some frightening form of sexuality, or combinations of these expressed with their opposing wishes. In these disturbed states, transference figures were created by the patient from persons within the treatment unit for the purpose of re-enacting his central conflictual experience.

Especially during the more significant awakening phase from coma, these transference figures, in terms of which the forbidden and repressed were expressed, became no longer frightening, punishing, or disturbing, but in reality, safe, neutral, or supportive. The essence of such an experience on the one hand would be to foster greater strength of repression, and on the other, allow greater acceptance of the content that has had to be repressed previously. It could now be experienced as nonthreatening in the transference setting artificially promoted by both the insulin-intoxicated and dependent states of the patient.

Kubie and Margolin have expressed several concepts relating to this problem in a paper dealing with the rôle of drugs in the therapy of neuroses.[33] Their theoretical views may be extended to the quality of insulin coma effect upon schizophrenics. Particularly applicable and worthy of quote here is their concept of therapeutic synthesis of what was dissociated.

"This (neurotic personality splitting) indicates that at the moment in which the original repression and dissociation occurs, there may be an alteration in the psychological integrity of the individual, a momentary fragmentation, a loss of complete clarity as to the boundaries of the personality, a moment of doubt: who am I, what am I, where am I, what is happening to me? Inevitably this is a moment of acute psychic pain and perhaps of terror, of psychic chaos to which no human being wants to or even can return at will. Therefore, it is a moment which is exceedingly hard for a well-organized personality to recapture. (This is also true for the schizophrenic.—Quoting authors' comment). Yet its recovery, in part or in whole, may be essential to the process of therapeutic synthesis."

METHOD

Eleven insulin coma patients, all schizophrenic, were interviewed at various levels of responsiveness during the treatment period with particular emphasis being given to the subcoma and postcoma phases of the insulin coma treatment. Other interviews were con-

ducted after the patient had been terminated for a period of four to five hours or for a longer period of one to two days. The technic of interviewing used was essentially to expand the patient's associations to his own verbal productions and occasionally to his pantomimic productions. From such expressive behavior, fantasies were reconstructed. The technic employed was adapted to the particular situation of the insulin coma patient from Deutsch's method of associative anamnesis.[34] Every effort was made to avoid use of suggestions or associations arising from the physician. Verbatim notes were recorded on the scene of the patient's verbalizations and activities. In the treatment unit, this was done by avoiding the patient's awareness of the note taking. The interviews conducted during hours remote from the treatment or on nontreatment days contrasted in form but not in fantasy content with those done during or immediately following the treatment. The most striking differences from the interviews conducted apart from treatment were: blunt overtness of expression, more acting out, and poor concealment of the repressed content that existed in the interviews made during the hypoglycemic intoxication of both treatment and post-treatment phases. Most of the eleven patients who were interviewed regularly had concurrent insulin coma and electric shock therapy. In the judgment of this writer, there was a tendency for the verbalized fantasies during the combined electroconvulsive and insulin coma treatments to become reduced in affective content, fragmented and stereotyped in their expression. For these reasons, contents from such patients were more difficult to elicit and expand into their historical implications.

The extraction of fantasy content from the interview material required that the concrete, basic meanings of words used by the patient be examined apart from their reality content. Not all words were adaptable to this purpose, but among the more useful were those describing activities of the child, such as *nursing, coddling,* and *sleeping.* The words chosen for this process were selected from those that the patient was unwittingly compelled by his unconscious life to choose for self-expression in the course of a single interview. The patient, then, when speaking expressed what presumably to him was a matter of conscious reality. It was always necessary to consider the feeling-tone and emotional connotation of each of the isolated words and from them proceed to establish the fantasy being unconsciously expressed within the material. After these words were evaluated, meanings became apparent which expressed an undercurrent of emotional feelings outside of the patient's awareness. These conveyed the patient's wishes, needs, and fears in relation to his central fantasy life and its associated conflicts. In the psychotic personality described in the next section, these fantasies were weakly disguised and became overt both in his frankly psychotic states off-treatment and in the deeper phases of insulin hypoglycemic intoxication. The findings in this case supported the concept of continuity and repetition of an unconscious conflict. The latter arose in the historical setting, was expressed in the characteristics of the patient's psychosis, and subsequently acted out in the setting allowed by the hypoglycemic state.

Some parts of speech conveyed more emotional meaning than others and consequently demanded greater attention. Verbs and words that were readily converted into verbs were considered as action words within the movement of the fantasy being exposed. For example, the noun *nurse* may be sensed for its action meaning which is the process of nursing

or sucking. Adjectives employed expressed the qualities of experience within the fantasy. Nouns used by the patient may enhance the nature of the fantasy and were considered where they offered material of emotional significance. Examples of this would be in the use of nouns of blood relationship and also words generally recognized to have strong symbolic meaning like *sun* and *stairs*.

The following case material was selected from eleven similar cases, essentially for two reasons. First, because the patient described represented a rather typical insulin coma patient, and, secondly, he had never received electric shock or any other somatic treatment. Such a treatment might have modified his behavior under insulin in an artificial way. It was noteworthy that this patient recovered gradually in conjunction with insulin coma therapy during eight months of hospitalization and has been in remission for more than a year at the time of this writing. His occupation is socially and intellectually demanding and is successfully fulfilled.

ILLUSTRATIVE CASE

The following historical material is presented in order to show the relationships between the outstanding historical events of this patient's life and his emotional experiences while undergoing insulin coma therapy.

This patient was a single, Protestant male of Irish parentage, who was diagnosed schizophrenic reaction, acute undifferentiated type. His overt psychosis began approximately one week prior to his admission at the age of 25, when he began to express suspicion and hostility toward his father, taunted him and asked, "which one of us is the leader?" On another occasion during the same week he shouted out "shit" in an explosive outburst to the surprise of his relatives. The patient accused Catholics and Jews of persecuting him. He often mumbled inaudibly and then said that voices called him a "fairy." He described himself as being a "cherry" in reference to sexual intercourse. He expressed the wish to return to the military organization that he had previously belonged to because "to be a marine was to be a man." Similarly he would become impulsively assaultive and explain his actions by saying, "I feel like a sucker, you lose all your self-respect, everyone talks about me, I feel more like a man when I swing at somebody." On another occasion he said that he wanted to "screw" a girl and this would be "being a man." In this connection, physical culture, a long-standing interest and recreation of the patient, was frequently a subject of conversation during hospitalization. He talked as well of being killed by other men and of being one of a "herd of cows led by a marine officer." In protest to such feeling, he complained that he tried "to have a spirit" and not be just an "animal." He complained that hypodermic injections caused him to feel "weak" and there was observed an emotional pressure to describe in detail how he had been stuck in the arm, ears, and "ass." Feelings of inadequacy and of being ridiculous were manifested in many different forms.

The father's conversation in interviews was concerned with thoughts of violence versus peacefulness, morality versus immorality, strength versus weakness, high-class versus low-class, and dependence versus independence. The patient's father spoke frequently about health, physical size, and such equivalents of strength in relationship to masculinity. The

father said of himself that he "has a good cry when I feel the need," and he showed much concern about "being accused" of being nervous. Throughout the patient's lifetime, the father was extremely solicitous and sheltering to the patient. The father was ambitious for his son to make good grades in school, quite apparently in order to promote his own importance and find therein a substitute for his insecurity. Through such intellectual accomplishments, the son was obliged by the father's need to fulfill the thwarted hopes and aspirations so often expressed by his father, who was a laborer. He induced the patient to follow his own wishes and decisions, even concerning trivial matters, with the bribe of indulgent concern. Such oversolicitousness resulted in quarrels between them that were settled by the patient being submissive to his sheltering father. The patient summarized the conflict by saying, "I wanted the old man to like me, but I wanted to be myself, independent, and he wanted me to be his boy." The father had a disparaging attitude toward any girl acquaintances of his son. The patient, consequently, never had a date with a girl. He had only one friend, a boy, with whom he was never close. In the patient's adult years, the father interfered with his son's unstable relationships with employers as though they were his own problems.

The mother in interviews appeared as a rigid, stolid person who was quick to explain unnecessarily that she provided adequately for her family at all times. She described herself as being strict about the patient's daily routine and activities throughout his childhood and adolescence. She said of her son that he was one who could never say *no*. Interviews with the patient revealed concealed hostility in his attitude toward his mother, but such feelings were followed promptly by balancing complimentary remarks. He told how his mother worked outside of the home during his school years. Her working hours always separated her from the patient during those same hours that he was home from school. He spoke spontaneously of his mother's absence and of necessity would quickly add, "but I did see her at breakfast times," and continued to tell, as though offsetting his feelings of loss, that he saw a lot of her when he was "very little." The mother's rôle, such as preparation of meals and housework, was assumed by the father while she was at work in a factory. Interviews with the mother disclosed that she began working in a factory when the patient was six years old. It was mentioned that at this age the patient had pneumonia. The mother also told how at six years he was pushed down a hill by a bigger boy, receiving a permanent scar on his face. This same scar was suspected by the father, without reality basis, of having been the cause of his son's "not having 20/20 vision." The father later used his concern for this "loss by cutting" to prevent his son from joining the Marines. At about the age of 12, the patient came crying to his parents fearful that something terrible was going to happen to Mommy and Daddy. This memory impressed the mother, particularly when on the day following there occurred the sudden death in childbirth of the father's sister. The prophecy in this event was used by the parents to illustrate magical feelings they held in relation to their son.

The patient had one sibling, a sister two years younger. Both parents in talking of the patient's attitude to his younger sister recalled, for example, how at two years the patient had asked that she be thrown away. Other feelings toward his sister's presence were re-

flected in his often repeated desire during childhood to have a brother. In the several months prior to and during the onset of his psychosis, his sister was overseas. During this period, the mother said that he was lonesome for his sister, was preoccupied with thoughts of her, and anxious for her to return. Mention of his sister was conspicuously lacking during the period of his hospitalization. Feelings of such intensity betrayed with good probability the ambivalent wishes of the child. These involved both the relation to a sibling rival and, later, also the dependence on the maternal-like protectiveness that his sister came to represent. She described her brother in childhood as being passive and stated that he was often beaten in fights with other boys. In reference to the patient's passivity, the sister said of herself, in contrast, that she would "do things whether my parents wanted me to or not," and she did. The two siblings competed intellectually throughout their school years, and the predominant feeling in the patient was one of suppressed hostility. The heavy emphasis placed on intellect by the parents apparently fired the rivalry as well as stimulated the need for academic accomplishments by the two children.

Summary: One recognizes from the history the presence of a sheltering, weak, mothering type of father who nurtured, fed, and overprotected his son throughout his developmental years. The father in playing such a rôle very likely promoted the formation of a confused mother-father identification within the son. The father, instead of the mother, becomes the satisfying object, the aim-gratifying object for this patient's well-cultivated oral sexuality. The mother, by her rejecting absence from the home, by her perpetual strictness in all daily activities, combined with her cool, stolid character, becomes, on the other hand, the frustrating, depriving one with whom an identification was made and toward whom severe, unconscious hostility was directed. The mother, too, was the more stable figure emotionally, the strong "man of the house," who both goes to work like a father and cares for her family like a mother. The father, conversely, assumed to a large extent, the rôle of an indulgent mother figure. The rival sister, whose emotional development was apparently less affected by the father's insecurity and passivity, was capable of establishing a firmer, less conflictual identification with her aggressive mother.

The result of this family situation was a dependent, insecure, prepsychotic male whose instinctual needs, although they remained consciously unacceptable for the most part, were satisfied in dependent, feminine relationships with men. Since his passive needs were so unacceptable, he was in a state of continual threat of their exposure. Consequently, his relationships with men were filled with fear of being imposed upon, submissive, or weak. For similar reasons, he could not be the dominator. His attempted solutions became wild, rebellious projections and withdrawal to psychosis. A second result was an intense, though not so unconscious, hostility toward women who deprived, frustrated, and controlled, in the figure of mother and later sister.

The psychotic symptomatology in this case was a manifest expression of the patient's entire life situation; the full meanings of which could not possibly be discussed here. Nevertheless, the meanings of the hostile outbursts, taunts, and suspicion of father, the hallucinations of being called a "fairy," the pressing need to be a man, and the demand made to the father "which one of us is the leader?" have significant relationships to the patient's life

history. There was observed a thread of unconscious continuity constructed from the historical information that burst forth in the psychotic symptoms and then was abreacted repeatedly through the productions of insulin therapy. These interviews will be presented in another paper in the September issue of the JOURNAL OF CLINICAL AND EXPERIMENTAL PSYCHOPATHOLOGY.

NOTICE

The Spanish and French summaries of this paper will be published along with the interviews in the next issue of this journal.

BIBLIOGRAPHY

1. SAKEL, M.: The Pharmacological Shock Treatment of Schizophrenia, Monograph No. 62, Washington, D. C., Nervous and Mental Disease Publishing Co., 1938. An enlarged version of a series of articles from the Wien. med. Wchnschr., 1934-35.
2. GLUECK, B.: The induced hypoglycemic state in the treatment of the psychoses, *New York State J. Med.* 36:1473 (Oct. 15) 1936.
3. GLUECK, B.: Clinical experience with the hypoglycemic therapy of the psychoses, *J. Nerv. & Ment. Dis.* 85:564 (May) 1937.
4. CAMERON, D. E.: Further experiences in the insulin-hypoglycemia treatment of schizophrenia, *J. Nerv. & Ment. Dis.* 87:14 (Jan.) 1938.
5. SCHATNER, M., AND O'NEILL, F. J.: Some observations in the treatment of dementia praecox with hypoglycaemia, Part II. *Psychiatric Quart.* 12:19, 1938.
6. ORENSTEIN, L. L., AND SCHILDER, P.: Psychological consideration of the insulin treatment in schizophrenia, *J. Nerv. & Ment. Dis.* 88:397; 644, 1938.
7. PALISA, C.: The awakening from the hypoglycaemic shock, *Am. J. Psychiat.* 94 (supplement):96, 1938.
8. WALL, C.: Observations on the behavior of schizophrenic patients undergoing insulin shock therapy, *J. Nerv. & Ment. Dis.* 91:1 (Jan.) 1940.
9. SILBERMAN, I.: The psychical experiences during the shocks in shock therapy, *Internat. J. Psycho-Analysis.* 21:179 (April) 1940.
10. SHIPLEY, W. C., AND KANT, F.: The insulin-shock and metrazol treatments of schizophrenia, with emphasis on psychological aspects, *Psychol. Bull.* 37:259 (May) 1940.
11. WALL, C.: Some prognostic criteria for the response of schizophrenic patients to insulin treatment, *Am. J. Psychiat.* 97:1397 (May) 1941.
12. BYCHOWSKI, G.: Psychotherapy of Psychosis, New York, Grune and Stratton, 1952, chap. 20, Some aspects of shock therapy: the structure of psychosis, reprinted from *J. Nerv. & Ment. Dis.* 102:338 (Oct.) 1945.
13. FENICHEL, O.: The Psychoanalytic Theory of Neurosis, New York, W. W. Norton and Co., 1945, chap. 23.
14. LEVY, S., AND PERRY, H. A.: Narco-synthesis immediately following insulin shock, *J. Nerv. & Ment. Dis.* 106:137, 1947.
15. KALICHMAN, N.: The treatment and theory of prolonged insulin coma, with a case presentation, *Psychiatric Quart.* 22:213, 1948.
16. POLATIN, P.: Discussion of failures with insulin shock therapy, in Failures in Psychiatric Treatment, ed. by Hoch, P. H., New York, Grune and Stratton, 1948, chap. 10.
17. GORDON, H. L.: Fifty shock therapy theories, *Mil. Surgeon.* 103:397 (Nov.) 1948.
18. FREEMAN, T.: Some observations on insulin shock therapy, Parts 3 and 4. *Brit. J. M. Psychol.* 22:183, 1949.
19. SCOTT, R. D.: The psychology of insulin coma treatment, *Brit. J. M. Psychol.* 23:15, 1950.
20. SANDISON, R. A.: The psychology of electric convulsion treatment, *J. Ment. Sci.* 96:734 (July) 1950.
21. BRODY, E. B.: The Treatment of Schizophrenia: a Review, Monograph Series on Schizophrenia, No. 3,

Psychotherapy with Schizophrenics, ed. by Brody, E. B., and Redlich, F. C., New York, International Universities Press, Inc., 1952, pages 39–88.

22. Morrow, T. F.; Laucks, S. P.; and McKnight, W. K.: Insulin coma and group psychotherapy, *Arch. Neurol. & Psychiat.* 68:491 (Oct.) 1952.
23. Hollós, S., and Ferenczi, S.: Psychoanalysis and the Psychic Disorder of General Paresis, Monograph No. 42, Washington, D. C., Nervous and Mental Disease Publishing Co., 1925.
24. Reiner, E. R., and Scheflen, A. E.: The vital signs of insulin coma therapy: a statistical evaluation, *J. Clin. and Exper. Psychopath.* 13:139 (Sept.) 1952.
25. Scheflen, A. E., and Reiner, E. R.: Sensitivity in insulin coma therapy, *J. Clin. and Exper. Psychopath.* 13:225 (Oct.–Dec.) 1952.
26. Scheflen, A. E.; Reiner, E. R.; and Cowitz, B.: Therapeutic response in insulin coma therapy, a study of vital signs and sensitivity, *J. Clin. and Exper. Psychopath.* 14: (Jan.–March) 1953.
27. Kalinowsky, L. B., and Hoch, P. H.: Shock Treatments and Other Somatic Procedures in Psychiatry, New York, Grune and Stratton, 1950, pages 22-23.
28. Freud, S.: Beyond the Pleasure Principle, The International Psychoanalytical Library, No. 4, London, International Psychoanalytical Press, 1922.
29. Ferenczi, S.: "Two Types of War Neuroses" in Further Contributions to the Theory and Technique of Psycho-analysis, The International Psychoanalytical Library, ed. by Jones, E., London, The Hogarth Press, Ltd., 1950.
30. Bibring, E.: The development and problems of the theory of the instincts, *Internat. J. Psycho-Analysis* 22:18, 1941.
31. Bibring, E.: The conception of the repetition compulsion, *Psychoanalyt. Quart.* 12:486, 1943.
32. Reiner, E. R.: Psychopathology of insulin therapy. To appear in *J. Nerv. & Ment. Dis.*
33. Kubie, L. S., and Margolin, S.: The therapeutic role of drugs in the process of repression, dissociation and synthesis, The Yearbook of Psychoanalysis, Vol. II, New York, International Universities Press, Inc., 1946, p. 162.
34. Deutsch, F.: Applied Psychoanalysis, Selected Objectives of Psychotherapy, New York, Grune and Stratton, 1949.
35. Freud, S.: "The Unconscious," in Collected Papers, Vol. IV, The International Psychoanalytical Library, ed. by Jones, E., London, The Hogarth Press, Ltd., 1949, p. 98.
36. Scheflen, A. E.; Reiner, E. R.; and Jetter, W. W.: Fatalities in insulin therapy of the psychoses, *Arch. Neurol. & Psychiat.* 67:32 (Jan.) 1952.

A Case of a Female Transvestite with Marital and Criminal Complications

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Patient, A. C., was committed to the hospital for observation by a court order, under indictment on the charge of having obtained money under false pretenses.

The patient, a 33 year old woman who has assumed a male social role all of her life, is legally married to a 27 year old woman and has had one previous marriage to another woman. Physical and gynecologic examinations reveal that the patient is female, and there is no medical evidence of any gynecologic surgery.

BACKGROUND

Anamnestic interview, conducted by a social worker with the patient, revealed that A. C. thought the charge against her was unfair. She felt her mother-in-law was trying to "frame" her, in order to destroy the patient's present marriage. The patient felt that the marriage has been a happy one, readily accepted and enjoyed by both husband and wife. They have been married eight months, though they had a discontinuous relationship for the previous twelve years. A. C.'s wife has expressed her feelings of satisfaction with the marriage to police authorities and indicated that she would like to continue the relationship.

At the time of marriage, the patient's wife had several hundred dollars, which she had saved from previous earnings, and the couple invested in a clothing business. When the business failed, A. C. sought work as a day laborer on farms. However, she was unable to work regularly, through lack of steady employment and because she became emotionally distraught at times. When upset, A. C. wandered into the woods and passed the day there in desultory behavior and reflection, returning to the wife as though she had passed a normal work or job-hunting day. A. C. stated that she had some inclinations toward "religious work" and has occasionally devoted herself to evangelistic enterprises, such as distributing literature or offering religious testimonials and prayer; however, this phase of her life seems incidental to her. She did not feel that her main problem concerned religion but related instead to her inability to become accepted by the world-at-large—"to make a place for myself." She has been continually harassed throughout her life by "everybody," and labelled a "freak," "homo," or "hermaphrodite." A. C. thought these derogations were unjust. She considered herself to have always been masculine and knew that her wife felt about her and accepted her as such.

A. C. felt an unfortunate outcast in never having been completely accepted as a male. When a small child, she refused to wear dresses: "Something inside just told me that I was a boy." Attending school for the first time, she was made to wear a dress, and was so em-

barrassed she hid under a desk. Finally, A. C.'s mother arranged for her transfer to another school where she was permitted to wear overalls with the rest of the farm children.

A. C. indicated that she had an operation for appendicitis when she was 17 years old. The attending physician informed her that she had "internal male sex organs but they were in some way diseased or injured, and were removed." This "confirmed" the patient's persistent lifelong feeling that she was a biologic male, although she admitted her outward appearance to be characteristically female. She explained that something she read in a sexology magazine encouraged her to believe that she could have another operation. Her reading indicated that there were operations which had succeeded, in a number of cases, in "turning women into men."

The Criminal Charge. The patient explained the criminal charge against her. The couple were in need of money and the patient sought a loan from the wife's family. A. C. was going to visit at the home of her wife's family and she sent a telegram to herself at the family's address. The telegram apparently indicated that the patient's wife was in need of money to provide for the health of the wife's child, born of a previous marriage. The mother-in-law intercepted the telegram and agreed to give A. C. the money for the wife's use. The patient did not allow her wife's family to know of the wife's whereabouts, and she, therefore, felt this method of obtaining the money necessary to protect her wife from the mother-in-law. The mother-in-law had objected to the "unnatural" marriage and "threatened to kill the wife when they found out about this strange marriage."

The mother-in-law, believing that the wife never received the money, instituted charges against A. C. of obtaining money under false pretenses. The patient denied this, intimating that the entire scheme was a ruse on the part of the mother-in-law to locate her daughter and have her returned to the parental home. A. C. felt she was at fault only in sending a telegram to herself.

The Patient's Childhood. The patient knew nothing about her infancy and early childhood. A law enforcement officer from her community stated that the family physician who delivered her declared the infant a normal baby girl. A. C. indicated she had earaches and headaches and believed they were caused by nervous strain. She also had had malaria, but there were no other physical difficulties other than those associated with her problem of sexual identification.

The patient described her childhood and adolescent social development as without significant incident. She preferred to remain alone though she would occasionally attend a movie, in which she had no particular interest, and she did not become involved in any other social activities. She read the Bible on occasion and had attended church. She thought that she attended too many churches, that "preachers are merely money crazy," and she preferred a religion of her own: "God is mercy and love, and goodness and understanding, and if ministers would preach the Bible as it is really written there would be a lot more good in churches."

A. C. was married previously but has not seen her former wife for five or six years. The patient separated from this wife because they had never been happy together, and A. C. learned she was a prostitute. The first wife also had a daughter through a previous mar-

riage. A. C. believed she and the present wife have had a "peaceful and happy home life."

The patient has never worked regularly, having been employed mostly in odd jobs and farm work. She has never been in military service and said she had never registered for selective service because "they would think I was crazy."

A. C. had not been in trouble with the police at any time previously. She did not use alcohol or any other intoxicants and she was a light cigarette smoker.

A. C.'s father, who owned a cotton gin and store, was shot to death by a drunkard when the patient was 12 years old. Her mother died of cancer when the patient was 23 years of age. She felt that her mother "was ignorant and did not understand my situation. She stated over and over again it was her fault for bringing me into the world."

A. C. could not get along with her five brothers and five sisters, of whom there were three younger, two boys and a girl. She felt her brothers and sisters had never understood her. Her oldest brother teased her for persisting in being a boy, and she recalled that she attempted cutting off her arm in order to kiss her elbow and become a boy. One sister had told her of a doctor who could change a girl into a boy by putting her into a box and leaving her there for nine days; this possibility troubled A. C. for a long time because her greatest desire was to be a boy.

A. C. had been admitted to a mental hospital for the first time when she was 26 years old. She remained there for one week and was diagnosed upon discharge as a psychopathic personality, with homosexual complications, unchanged. Just prior to this hospitalization, she had attempted suicide by slashing her wrists.

A. C.'s wife completed an anamnestic form, which was sent to her in an effort to secure more information about the patient. She returned this form together with a covering letter in which she described her own feelings concerning A. C., their marriage, and their problems. The letter written by the wife suggested high school training in English usage, and it was penciled in neat and even penmanship. The following excerpts are pertinent remarks from that letter:

"I don't know much about the charge of your patient getting money under false pretenses. The first I did know of it was when we were picked up in ——. He did get the money from my mother and gave it to me, but what he told her to get the money I do not know. . . . Personally, I think the whole thing is a frame up."

"Could you please give me any information as to the sex of the patient? I married him with the understanding that it was all very leagel (*sic*) and that he had these male organs. Now the law tells me it's quite different."

"I've known the patient about twelve years and he was always considered a public freak. He has always been scorned, humiliated and ridiculed beyond all measure."

On the anamnestic form, the patient's wife identified herself by writing: "I am supposed to be the patient's wife." Regarding the patient's sex the wife noted: "you tell me." Concerning the patient's symptoms, the wife declared: "I didn't notice any symtoms (*sic*) as the patient tried to keep these things from me. He did tell me he needed to see a doctor as he was very confused as to what to do. . . . Nothing would be unusual (in behavior) for your patient!"

A. C.'s wife also noted that the patient was depressed, threatened (but did not attempt) suicide, talked a great deal of religion, and felt persecuted. In the main, the wife did not seem to be greatly disturbed by the patient's behavior and appeared to know relatively little about the patient's background and life prior to their marriage.

DESCRIPTION OF A. C.'S PHYSICAL APPEARANCE

A. C. was seen by the writer for psychologic examination during the course of a morning and afternoon of the same day. The patient appeared as a slight, boyish-looking young man, poised and quite matter-of-fact. Her voice had a fairly high pitch and appeared to be "changing," but she reflected no concern about this or any other aspect of her behavior. She gave the impression of self-assurance, discussing her problems and responding to test materials and questions in an even, easily controlled and seemingly natural manner. She emphasized certain thoughts occasionally, but never appeared excited or unduly aroused by any aspect of testing or interviewing.

The patient wore male attire, shirt and trousers, which fitted rather loosely and naturally. She also had a boy's haircut. Only the sallowness of her skin suggested that she might be somewhat older than a youth. The slight frame, small facial features, and lack of facial hair were the only indications of femininity. Mannerisms, such as posture in standing and sitting, handshaking, etc., were decidedly but not overemphatically masculine.

TEST AND INTERVIEW DATA

The patient was administered a battery of psychologic tests within one week after her commitment for observation. In sequence, she was administered the Rorschach Test, Draw A Person Technic, Thematic Apperception Test, Wechsler-Bellevue Intelligence Scale, Form I, and the Blacky Pictures. An interview, intended to elicit further personal information, was conducted immediately following the completion of testing.

All of the tests are herewith reproduced. The Rorschach psychogram represents scoring which corresponds most closely to Klopfer's method, with some deviations. The F+ category deviates in that a '+' scoring represents correctly perceived form, whether of a superior or pedantic quality. The 'F ±' represents ultimate doubt concerning the correctness or incorrectness of the form perception. The 'F–' represents a decided distortion in the perception of form. The underlying criterion for form adequacy is based on Klopfer's formulations.

Following testing of the limits in the Rorschach, the patient was requested to separate the ten cards into two piles, and then to indicate the rationale for the separation. This information is presented with the Rorschach data.

The Thematic Apperception Test was initially conducted without an assertive attempt to extend the patient's conceptions. As testing progressed, the patient was urged and questioned, with some sacrifice in spontaneity, in order to secure greater, pertinent verbalized production. The TAT stories are presented in the order that the seventeen selected cards were administered, excepting the stories for cards # 7BM and # 12M. The

stimulus material presented by these cards was unintentionally overlooked at the time the TAT was administered. The two cards were appended to the testing process after the last technic was administered.

Only the scoring summary box of the Wechsler-Bellevue Scale is herein provided, together with weighted scores and I. Q.'s for the verbal, performance and total scales.

The stories for the Blacky Pictures are transcribed as given. The inquiry questions are reproduced, but only the patient's choice of response is copied.

The interview material is organized and presented in a somewhat integrated form. However, the material was elicited from the patient in relatively unstructured interview, with exchanges initiated by direct questioning but becoming extended through the patient's added voluntary verbalizations. The occasions for renewed questioning may be inferred where topical changes and/or pauses take place in the interview material.

THE RORSCHACH PROTOCOL

Card I		
7″	1. That might be a butterfly.	1. The way it was shaped. The wings out here and the body in the middle.
	2. It looks to me like a lady's dress there.	2. There's the belt there, the bust and the legs. You can see the belt buckle and it's darker all along the waist where the belt is. She is big at the top and bottom but not in the middle.
Card II		
16″	1. I guess that would be a Christmas seal. . . . That beats me. I just guess that's a Christmas seal.	1. The coloring, and the shape of it. The red here. It's mainly the color. *Additional:* This reminds me here of a top. It's not spinning. Just the shape of it.
Card III		
5″	1. A snow man.	1. The eyes here. The white gave me the idea of the snow. It wouldn't be a snow man without it.
	2. A forest.	2. I see two trees, and maybe there's another one in the middle between them. It's just shaped like trees. . . . I just imagine the rest of the forest is there. I don't see it very clearly.
	3. A fish.	3. The way the tail is shaped here, and the fins here. It reminds me of the shape of a fish.
	4. A saddle.	4. Just reminded me of the shape of a saddle. *Additional:* A bow tie. It's in the shape of a bow tie.
Card IV		
26″	1. Animal fur, an animal hide.	1. I've skinned animals like that. I'd say it was a 'coon. This part here (bottom middle) and the way it went along around here (the outline of the outside edges). Those spots, spotted in there, made me decide to call it a 'coon.
	2. Oh, that must be a sheep or hippopotamus.	2. The horns here. I see just the top of it. It reminds me of the shape of a hippopotamus or sheep. *Additional:* Ladies shoes here, and the feet. It's the shape it's in.

Card V		
36″	Gets worse all the time. Don't know if I can see anything.	
	1. Yeah, I see a face here.	1. It has a nose and mouth there (the outline). That spot in there is an eye. . . . A man—long chin and a long nose.
	2. I think I see Santy Claus, too.	2. It's white and I just pretended the other was red. He has a big stomach here and I see his nose and mouth (the outline).
Card VI		
6″	1. I see a bat.	1. The shape of it, the wings here and the head.
	2. A turtle.	2. The whole thing. The long neck there and the way it's shaped all around.
	3. And a snake.	3. It's in the shape of a snake there.
Card VII		
27″	1. That must be cookie designs there. I'm warning you, Doctor, I'm not very smart.	1. My mother used to cut me out little cookies in that shape when I was young. It's just the way it looks.
Card VIII		
15″	1. Yeah, here's a bear.	1. I've seen pictures of bears. There are the legs and the tail (when extended, became confused as to number of legs and place of tail).
	2. A Christmas tree.	2. There are gifts under the tree here. I think I see some perfume here. It's the shape of a tree (top two thirds of the card). Gifts usually go under a Christmas tree. . . . No other reason. . . . No other reason for perfume; it's usually under a Christmas tree.
Card IX		
35″	1. I see a deer's head.	1. I see his eyes, and his horns. It's more or less the shape.
Card X		
10″	1. I see a spider.	1. I don't like 'em. They got a gang of legs. . . . The shape.
	2. Turkeys.	2. Two of them, butting heads.
	3. Mountains	3. Reminds me of when I was out west. There are the peaks. It's the shape of them, sticking out there.

Card Choices

Best Liked..... #8....Because it's colored, I guess.
Least Liked..... #2....Just not pretty to me.
Hardest..... #9....Couldn't find much of anything on that one.
Easiest..... #3....I could see trees and a snow man and branches—I could see more.

Grouping of Cards in Two Separate Stacks

Stack 1—Cards 3, 7, 8, 9, 10 Reason: I liked these best.
Stack 2—Cards 1, 2, 4, 5, 6 Reason: I didn't like these.

Psychogram

R-21 T-12′
Chromatic Cards, R-11, 52% Chromatic Cards, Initial Reaction, Av. 20″

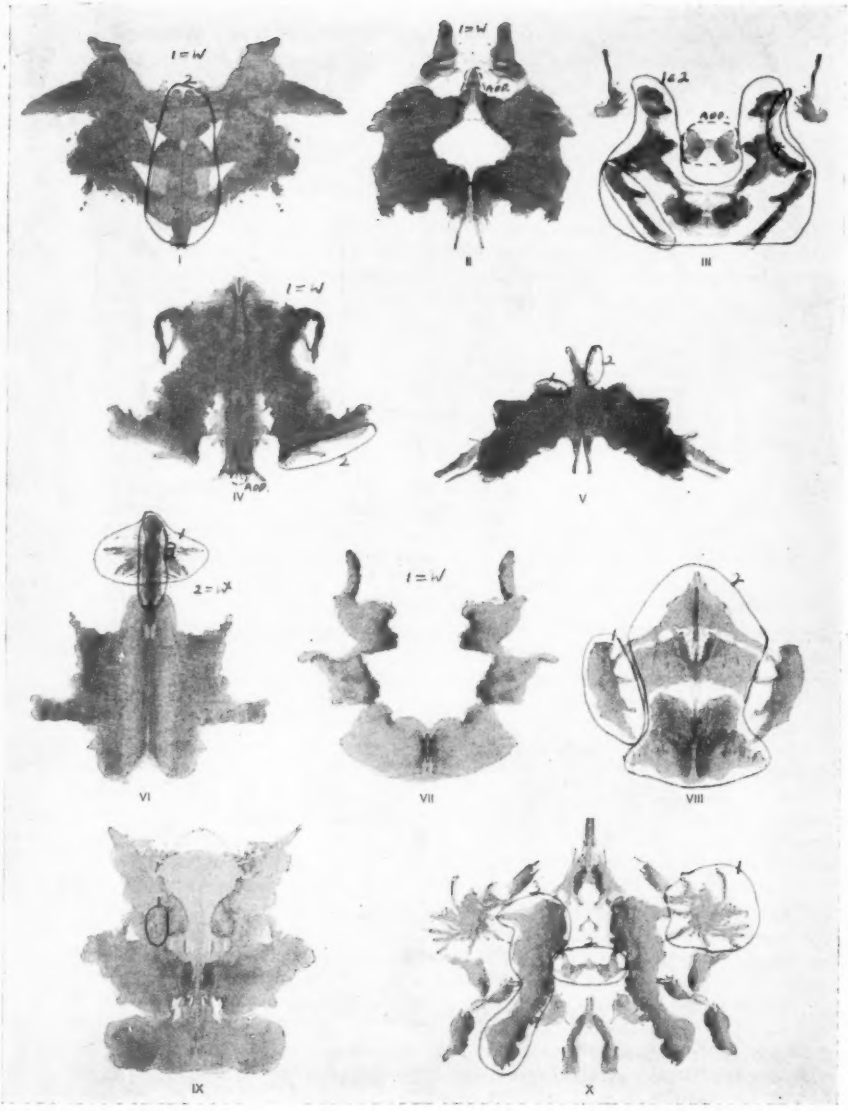
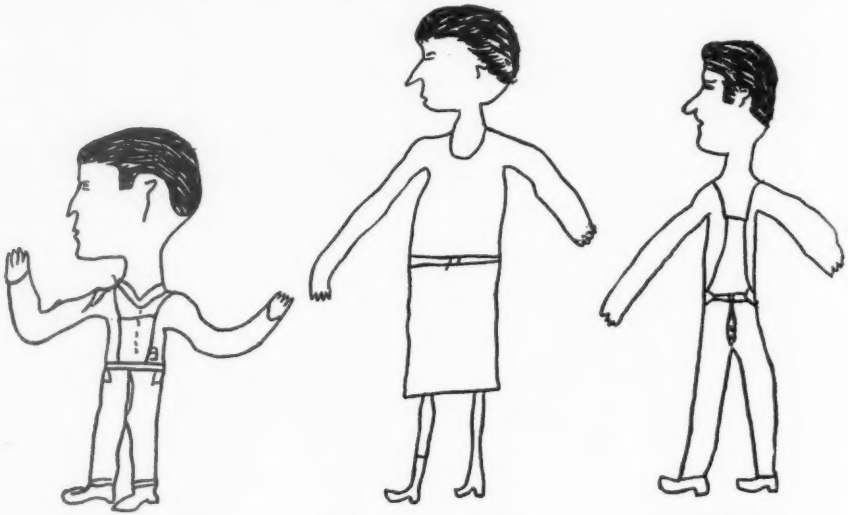


FIGURE 1. Rorschach Psychodiagnostics

FIGURE 2. The patient's figures from the Draw-A-Person Test.



1. Drawing of a person.

2. Drawing of a person of the opposite sex.

3. Drawing of self.

Achromatic Cards, R-10, 48%		Achromatic Cards, Initial Reaction, Av. 18"	
W — 4	19%	H —2	
D— 13 (2)	62%	Hd –2 (1)	18%
Dd— 4 (1)	19%	A —9	
S — (1)		Ad –2	52%
F 14	67%	Na 1	
F + 11 (3)	89%	Na/Bot 1	
F ± 3 (weighted half plus, half minus)		Na/Orna 1	
		Design 1	
CF –1		Obj 2	
C'F 2		P —3	
Fc 3		O —4	
W:M——4:0		Confabulations	2
FM,m: (c), (C') —1:5		Positional Responses	1

DRAW-A-PERSON TECHNIC

Drawing No. 1: Spontaneous Comments While Drawing—None.

Associations After Completion of Drawing: Looks pretty skinny to me. Looks like he's a little bit scared to me. His legs are a little bit long. His waist looks a little bit long too.

Drawing No. 2: Spontaneous Comments While Drawing—The woman has a deformed hand. (*Who do you know that has a deformed hand?*) I know a man like that (No further information). . . . One foot is larger than the other. There is no reason, I guess. I just can't draw good.

Associations After Completion of Drawing: Well, she's got a long nose, I know. She's always got it stuck in somebody else's business. Looks like an old woman to me, about 50 years old. . . . Looks like she's got a flat head, too. Don't know what that means. Never did see any woman that was very smart myself.

Drawing No. 3: Spontaneous Comments While Drawing—Just never do look at myself. It's getting harder all the time to draw.

Associations After Completion of Drawing: I don't think that my chin is that long. I don't think my head is that shape at all.

THEMATIC APPERCEPTION TEST

* 13B. Looks like a little boy sittin' in that door waitin' for his mother to come home. Looks like they might be a little bit poverty stricken there. I wouldn't know how the story wound up. Well, I imagine she comes in about dark, makes him dinner, throws him into bed, and she leaves next morning to go back to work in the cotton patch. (*What is he thinking?*) About going to town Saturday or something like that.

* 8GF. Boy, these are hard. Well, she looks like some old gal took her boy friend away from her. And she's waitin' up for him. (*Outcome?*) I just don't know. I don't know how that turned out. She looks more like she's been cleanin' house and she's tired and uh—she looks unhappy—well, now, I imagine she has spent her life like that. (*What about the boy friend?*) Yeah, he made it back all right.

* 2. Well, the man is plowing the field. And the mother is standing there watching him. And the daughter is coming by from school. And I imagine they are, or were, are a happy family. (*Who is the man?*) The man is the woman's husband.

* 4. I expect they been fightin' and he's tryin' to go and get away and fight some more, and she's tryin' to hold him. I imagine he gets away, too, 'cause he looks tough there. That's his wife. (*Tell me about the fighting.*) Fightin' with the wife. Maybe he thought she didn't want him or something like that. He really wants to stay there but he's pretendin' like he wants to get away, but he'll stay. She wants him; she's a good skate, I guess.

* 6GF. You mean I gotta make up a story about this? Guess I'm a pretty good liar. Well, the boy surprises his sweetheart here. He comes in and surprises her. And they make some plans. And they leave and are married and are happy. (*Tell me about the boy*). I think he's wonderin' if there's somebody goin' come along and spoil it. It usually is spoiled, 'cause nobody wants to see anybody else happy. (*Tell me about the woman.*) She's probably thinkin' the same thing.

* 18GF. I can't tell if this is two women or two men. I guess it's a woman and a man. And she looks like she's choking him for some reason or other. (*Why the choking?*) Let's say she was choking him because she caught him, or he caught her, running around with other men. (*Outcome?*) Uh, they made up! (*Her feelings?*) Well, she must love him, choking over a deal like that.

* 10. This beats me—he's probably proposing, you see, and uh, and uh, and he's paintin' a rosy picture, you know, and so they get married. (*What led up to it?*) I guess she loved him. (*Was it really that way?*) Yeah, they got married and they loved each other. They should love each other. They got married. (The patient stared at the card a few moments, then put it down.)

* 8BM. This is a boy here, having an operation, and he's dreaming about being a normal, happy boy, like this boy there. (*Why must he dream?* Patient answered that she was thinking about herself in this picture, and it reminded her of her own problems. The examiner suggested that she try to make up a story about something else.) O.K.! The guy was on a huntin' trip and he was hurt. And they were operating on him, taking a bullet out. Let's say he was prayin' not to die so he could go home to his son again. It was successful and he went home.

* 5. O.K.! I'd say the mother here, she's peeping in the living room and calling the husband to come to dry the dishes for her. And he went! (*How did he feel about it?*) He was glad to help. He loved his wife. (*What kind of a wife?*) A good wife. She's honest and true to him and decent and respectable. (*Is she very young or somewhat older?*) She's about middle age. (*Who "wears the pants" in the family?*) He does.

* 6BM. This is a mother and her son at a funeral of her son. (*What's going on?*) Well, I think they are being sorry because they mistreated him. (*What are they doing?*) Well, I would say they are paying their last

respect to him. (*How was he mistreated?*) They thought maybe he didn't have good sense or something like that. They were proud and selfish and wouldn't try to understand him. (*How did he die?*) He committed suicide. (*Where is the father?*) He's already been dead for several years.

7GF. This is a mother—the little girl didn't want to start to school, and she's trying to persuade her to want to go to school. She's reading the Bible to her. And the little girl was sad because she couldn't go to school with her friends, because she wanted to go to a different school from her friends. (*How did she pick her friends?*) They were good and kind to her. (*Outcome?*) She goes to school and is happy. (*Which school?*) The one her mother wanted her to go to.

9GF. Let's see. This is a grown sister and her little sister, and they went to the woods on a picnic. And, uh—the girl is bored with her sister's company and she is running home. She goes home without her sister and her sister comes home later. (*Why is she bored?*) Maybe she didn't like her sister and didn't want to be with her. (*How did they differ?*) The grown sister was hateful and the little sister had a good disposition.

17GF. They get harder all the time. This is a guy that's dissatisfied with life (spoken in a resigned way), and he's looking over the bridge, thinking about jumping in the river. But he doesn't jump because he really wants to live. He's just wondering now if he's got the guts. (*The guts to what?*) To jump. (*Why is he dissatisfied?*) 'Cause he's never had a chance and probably thinks he never will have. I don't think he has the guts.

14. Well, it's uh. . . . I think this boy here in this window, he's lived a dissatisfied life—dark and gloomy. He's about to walk out in the world now to be free and happy and have as much right as anybody else. (The patient began to tear, stared out the window, and said, "I'd like to do that," but she did not cry.)

13MF. This is uh . . . . I guess a man and his wife, and uh, she loves him but he doesn't believe it, and he's having a nervous fit with it. He finds out she does love him, and they live happily ever after. (*What are they doing in the picture?*) Well, it looks like he's crying and I guess she's asleep. (*Why is he crying?*) Because he thinks maybe his wife doesn't love him.

7BM. Let's say his father's been mean to his son and he's asking his son to forgive him. And his son forgives him and they get along very well afterwards. (*Why was the father mean?*) Maybe the father disliked him. (*Were they ever very close?*) No! Not until this father realized his mistake and asked his son to forgive him.

12M. This looks like maybe a burglar planned to rob this woman. Well, he probably needed some money and he went in to rob this woman. And she probably jumped up and had a gun. And she called her husband. She run the man off. (*Who was the burglar?*) Probably some one she doesn't even know.

WECHSLER-BELLEVUE INTELLIGENCE SCALE, FORM I

Summary

Verbal Scale	*Weighted Scores*	*Performance Scale*	*Weighted Scores*
Information	9	P. Arrangement	7
Comprehension	10	P. Completion	6
Digit Span	7	Block Design	8
Arithmetic	6	Object Assembly	12
Similarities	10	Digit Symbol	10

	Weighted Score	*I. Q.*
Verbal Scale	42	95
Performance Scale	43	97
Full Scale	85	96

THE BLACKY PICTURES

Cartoon I (Oral Eroticism).

Looks like he might be gettin' his dinner or something. Looks like a poor little dog to me. Bony and been about half fed. (*Mama?*) She's been about half fed too. I guess the old mother dog had just had her dinner

and she was full, and she was ready to feed her puppies. After, the pup went off to play and she went about her business.

Inquiry:

1. *Is Blacky . . .* happy.
2. *How does Mama feel in this scene . . .* rather unhappy.
3. *Which would Blacky rather do . . .* stay as long as possible to be sure he gets enough nourishment.
4. *Which one of the following best describes Blacky . . .* he sometimes doesn't get enough to replace all the energy he burns up.
5. *Judging by appearances, how much longer will Blacky want to be nursed by Mama before being weaned . . .* he feels Mama would like to turn him loose right now.
6. *How will Blacky feel about eating when he grows older . . .* he will enjoy eating but will like lots of other things just as much.

Cartoon II (Oral Sadism).

Well, there he finds his mother's collar, and he's taking it to her. His mother probably lost the collar in a fight with another dog. And Blacky's crying about it. I think I see a tear or two.

Inquiry:

1. *Why is Blacky doing that to Mama's collar . . .* well, that's the only way he has to carry the collar to her in his mouth.
2. *How often does Blacky feel like acting up this way . . .* very often.
3. *Blacky most often acts like this when he can't get enough of which one of the following . . .* attention.
4. *What will Blacky do next with Mama's collar . . .* get tired of it and leave it on the ground—he's on his way but he'll probably get tired and leave it on the ground before he gets there.
5. *If Mama comes on the scene, what will she do . . .* feed Blacky again.
6. *What would Blacky do if Mama did come over to feed him . . .* he'd put down the collar and start eating.

Cartoon III (Anal Sadism).

I guess he needed to. He's been feeding and then he'll go to bed. I see this bowl there (in front of Mama's house). He probably gets more from this bowl and then he's ready to go to bed.

Inquiry:

1. *What was Blacky's main reason for defecating there . . .* he picked the spot by accident.
2. *Which one of the following is Blacky most concerned with here . . .* relieving himself so that his system feels more comfortable.
3. *Why is Blacky covering it up . . .* he's automatically doing what he's been taught.
4. *How does Blacky feel about the training he's been getting . . .* by relieving himself in the way he's been taught, he now has an opportunity to show his family what a good dog he can be.
5. *What will Mama say to Blacky . . .* that he's been a very good dog.
6. *What will Papa say to Blacky . . .* that he is a fine dog.

Cartoon IV (Oedipal Intensity).

Well, he looks like he's watching Mama and Papa there talking over their romance, I reckon. I see some hearts popping up there. I guess it was just their mood. Well, I guess they go off and lay down and are content with the world—Blacky is just walking.

Inquiry:

1. *How does Blacky feel about seeing Mama and Papa make love . . .* he's very happy about it—well, anybody'd be happy about it. Well, I would have been happy if I had seen my Mama and Papa make love.
2. *When does Blacky get this feeling . . .* whenever he sees Mama and Papa making love.
3. *Which one of the following makes Blacky most unhappy . . .* Papa keeping Mama all to himself.
4. *What does Blacky suspect is behind the scene he is watching . . .* he suspects Mama and Papa are very much in love.
5. *What will Papa do if he sees Blacky peeping . . .* be accordin' to Papa I guess. I don't guess Papa will care.
6. *What will Mama do if she sees Blacky peeping . . .* I don't guess she cares.

7. *Which would make a happier picture* . . . Papa left on the outside watchin' Blacky together with Mama.

Cartoon V (Masturbation Guilt).

He looks like he's scratching himself to me.—Man, I don't know anything about that—can't make up anything.

Inquiry:

1. *How does Blacky feel here* . . . mixed up and guilty.
2. *How might Blacky feel about this situation when he is older* . . . enjoying himself, but a little worried—I wouldn't know.
3. *Whom might Blacky be thinking about here* . . . probably himself—don't know why.
4. *Does Blacky naïvely fear that something might happen to him* . . . I don't suppose he does. Why should he!
5. *What will Mama say if she comes home and finds Blacky* . . . well, if he were doing something he shouldn't do, I guess she'd scold him for it—I guess it's just nature with dogs.
6. *What will Papa say if he comes over and finds Blacky* . . . I don't guess he'd say anything about it either because Papa was a dog, too, see.

Cartoon VI (Castration Anxiety).

Well, it looks like Tippy is just about to get his tail cut off with this knife here, and little Blacky is feeling sorry for him. I don't know why people cut puppies tails off—I cut plenty of them off, but I didn't know why I cut them off. Several years ago, well, I cut one off this summer. I cut it off for a neighbor; don't know why unless she wanted a bob tail dog—well, I guess Tippy gets his tail cut off.

Inquiry:

1. *How does Blacky feel here* . . . terrified that he's going to be next.
2. *What does Blacky suspect might be the reason for this thing* . . . he suspects Tippy is an innocent victim of someone else's ideas.
3. *How does Blacky feel about his own tail* . . . he's thinking desperately about a way to save it.
4. *Do you suppose Blacky would prefer to have his own tail cut off right away rather than go through the suspense of wondering if it will happen to him* . . . I don't think so . . . well, if I was a dog, I wouldn't. Might not ever happen to him if he didn't.
5. *Which member of the family most likely arranged for Tippy's tail to be cut off* . . . probably the Daddy, one of his ideas, I guess.
6. *What will other dogs in the neighborhood do when they see Tippy's short tail* . . . start worrying about their own tails.

Cartoon VII (Positive Identification).

Well, I imagine he's telling the little toy dog that he's gonna get his tail cut off too. Well, of course it doesn't because it's a little wooden dog.

Inquiry:

1. *Who talks like that to Blacky* . . . his Daddy.
2. *Whom is Blacky most likely to obey* . . . his Mother.
3. *Whom is Blacky imitating here* . . . Papa.
4. *Whom would Blacky rather pattern himself after* . . . Papa.
5. *Blacky's disposition, actually, is most like the disposition of which one* . . . Mother—Mom.
6. *What would Blacky have an impulse to do if he were in the position of the toy dog* . . . stand there and take it.

Cartoon VIII (Sibling Rivalry).

Well, I just imagine that they are pettin' Tippy here, and it makes Blacky feel unloved and unwanted and he has his feelings hurt. Well, when they get through pettin' Tippy, I guess Tippy and Blacky'll go play.

Inquiry:

1. *What does Blacky probably feel like doing now* . . . bark happily at the group and join them.
2. *According to Blacky, how much praise does Tippy actually deserve* . . . he feels Tippy deserves some praise, but not that much.

3. *Who does Blacky feel is paying more attention to Tippy* . . . both paying the same amount.
4. *How often does Blacky see this* . . . very often.
5. *How does Blacky think Mama and Papa really feel toward him at this time* . . . he thinks they love him less than they do Tippy.
6. *If Blacky is angry, whom is he most angry at* . . . Papa. Well, I wouldn't know why but I guess I would be. Well, Papa is the boss, and Papa should know how much praise he deserved.

Cartoon IX (Guilt Feelings).

Well, I don't know what he's upset about—well, maybe this is his girl friend he sees in his dreams—looks like a hog to me. He's probably thinking of her—I see some tears there. I really don't know anything about a dog's life—well, from what I could see there, he's just thinking about his girl friend or dog friend or something.

Notation: Patient, relating to childhood experiences in an interview following testing, mentioned an incident wherein her father was at work on the farm killing hogs with a club.

Inquiry:

1. *What might have happened between the last picture and this one* . . . there's no connection between the two pictures.
2. *How is Blacky's conscience here* . . . I don't know what his conscience here is hurt about.
3. *Which character do the actions of the pointing figure remind Blacky of* . . . Probably reminds him of his Mama.
4. *Who is really to blame for Blacky's feeling this way* . . . the situation couldn't be helped.
5. *How guilty does Blacky feel here* . . . I see no reason why he should feel guilty.
6. *What might Blacky do now* . . . I guess he'll get up and go off to play.
7. *Do you think Blacky will* . . . feel bad for a little while and then go out to play.

Cartoon X (Positive Ego-ideal).

Blacky is dreaming about this little dog here. I guess he's dreamin' about a dog to come and play with. Maybe a stray puppy comes through the country and takes up with Blacky, and they play together.

Inquiry:

1. *Whom does the figure remind Blacky of* . . . guess it reminds him of Tippy.
2. *In Blacky's mind, how does Papa stack up against the dream figure when he compares them.* . . . well, I suppose he'd rather have a dog more his size and age to play with than his Papa.
3. *What would be the main reason for Blacky wanting to be like the figure in his dream (if he did want to be like it)* . . . then he would show up Tippy.
4. *What does Blacky himself probably feel about his chances of growing up to be like the figure in his dream* . . . he probably feels he has a very poor chance to grow up to be like that.
5. *Actually, what are Blacky's chances of growing up to be like the figure in his dreams* . . . very good.
6. *How often does Blacky probably have this kind of dream* . . . fairly often.

Cartoon XI (Love-object).

He's still probably dreaming. Maybe that's his girl friend in this picture—maybe another dog to have to play with—it comes out same as the other picture. He takes with maybe a dog that's more friendly than Tippy is to him, or his family, and he likes the dog better.

Inquiry:

1. *Who is the figure Blacky is dreaming about* . . . dog friend, girl friend, whatever you want to call it.
2. *Whom does the figure remind Blacky of* . . . reminds him of Tippy.
3. *Which of the following possibilities would attract Blacky most* . . . the possibility that the dream figure looks like Mama, which would remind him of the good old days.
4. *Why does Blacky feel so contented while he is dreaming* . . . he feels everyone will admire him.
5. *In Blacky's mind, how does Mama stack up against the dream figure when he compares them* . . . he'd rather have someone to play with. He wouldn't play with his mother like he would other dogs.
6. *Would Blacky rather be like the figure in his dreams* . . . no, I guess he'd be satisfied with being himself.

Cartoon Preferences:

Likes: II (Oral Sadism), IV (Oedipal Intensity), VII (Positive Identification), VIII (Sibling Rivalry).

Dislikes: I (Oral Eroticism), III (Anal Sadism), V (Masturbation Guilt), VI (Castration Anxiety), IX (Guilt Feelings), X (Positive Ego Ideal), XI (Love-object).

Most liked: II (Oral Sadism). . . . 'Cause he's carryin' his collar to his Mama.

Most disliked: V (Masturbation Guilt). . . . Well, I just don't like the picture.

INTERVIEW MATERIAL ELICITED PRIMARILY THROUGH QUESTIONING AFTER THE COMPLETION OF TESTING

Q. Tell me about your father.

A. He died at the age of 53 when I was 12 years old. He died from gun shot wounds from a drunken nigger employee at the cotton gin my father owned. It was a relief to me because he was mean to my mother and all of the kids. He was nervous and abusive. I was almost 13 years old and saw him when he was killed. I hardly spoke half a dozen words to him in my life. That's how afraid of him I was. My home life was very miserable . . . He wore the pants, like the devil. He beat anyone when he was angry, would pick up a club or anything . . . He didn't drink.

Q. Tell me about your mother.

A. She died at the age of 66, when I was 23 years old. She died of cancer. It hurt me very much, because I loved my mother. Up until that time she was the only friend I had. When I lost her, I had none. . . . She was very decent. Believed in the right things. She didn't raise her voice or gossip . . . Mother would cry when she was angry.

Q. Tell me about your brothers and sisters.

A. I have 11 brothers and sisters. Ranging in order there was (female) 51 years old; (female) 49 years old; (male) he died when he was 2 years old, he would have been 47 today; (female) 45; (male) 43; (female) 41; (male) 38; (male) 36; then there was me—I'm 33. I have a younger brother who is 31, another sister who is 29, and a brother who is 24. I didn't get along with any of them too well. They couldn't seem to understand me, that I was a special case. . . . I disliked my 49 year old sister most. She always mistreated me on account of my condition. . . . I got along fine with my next younger brother. But now my (49 year old) sister poisoned the minds of all of them. She thinks it's all my fault. . . . My (38 year old) brother sympathizes with me but my (36 year old) brother hates me. He thinks I'm responsible. . . . I used to group up together with my younger brother. We played together. . . . He was kind of the boss. . . . We fought a lot.

Q. Tell me about your wife.

A. She's the sweetest, easiest-going person. . . . I believe she has always been happy with me. . . . Each wears the pants about fifty-fifty. . . . She is understanding and would like to help me. . . . She talks to me, but not much to anybody else. . . . She's 27. My other wife, she was a prostitute. . . . We got married because both of us needed a home. She had some money and a farm. Though I was against the marriage, I agreed to it. We seemed to get along all right but then I found out she was a prostitute.

Q. Tell me your feelings and experience concerning sexual relations.

A. I never had any desire. I've never had any sex relations of any kind in my life. My wife said it never bothered her, that she could take it or leave it. She said it was nasty and grimy and she could do without it. . . . My wife never looked at or was curious about my sex organs, and I never looked at hers. We see each other nude when we take a bath but don't ask any questions. We sleep in a double bed. I sleep in shorts and an undershirt, and she sleeps in pajamas. She knew I loved her but she said it was with a mother-complex, whatever that means. . . . I kiss her, the way anybody else does . . . on the mouth. . . . I might have kissed her on the neck. . . . I never played with her breasts. I might have touched them accidentally but that didn't bother me none. . . . She doesn't have very large breasts. . . . Neither one of us has any hair on our body. I menstruate . . . regularly. Dirty stories and pictures don't interest me. They are not funny. My wife and I plan to go to New York to see that doctor to see if I can't have that operation. My wife wants me to go. He's really not a doctor. He's a professor. Those doctors don't understand.

Q. What does "love" mean to you?

A. I guess it's just when you care a lot for somebody. I know I love my wife because I care a lot for her. . . . Sex isn't important to me.

Q. Tell me some of the things you like to do.

A. I like to write—stories from the Bible. I always wanted to be a newspaper reporter. When something unusual occurs in my home town I write about it, but nobody else sees it. I put a lot of bull to it, can't tell you just what but anything I think's funny. I like to play cards—Rook (a game). I like to go hunting . . . squirrels. My wife likes to hunt, too, we never hunted together though. My wife cooks for the family. When I was with my first wife, I cooked everything.

Q. How have you earned a living?

A. I've done mostly day labor on farms. I like it because it's hard work. The more I work, the less I think about myself.

Q. When did you leave school?

A. I left school after the eighth grade. My brothers wouldn't accept me. They didn't like my wearing men's clothes all the time. I was accepted by the teachers. . . . I got along all right with both the boys and girls. I was very sensitive to everybody's feelings. I've always been very sensitive.

Q. What do you do when you get angry?

A. I never get angry. I used to be very high tempered before I had shock treatments—three of them—about six years ago. I lived with my sister and her husband then. I hated it. It got worse and worse. I drank some iodine and tried to kill myself because I couldn't stand it. I usually walk off when I am mad. If I have to fight, I fight. . . . I had a fight with my wife's (previous) husband once. He accused me of separating them, but I didn't do it. We used to be good friends for a number of years, and I used to come and stay at their house. . . . He whipped me. He outweighs me, he weighed about 200 pounds. I don't like being on the female ward. It makes me mad. But I guess I can take it long as I have to.

Q. Tell me a little more about yourself.

A. I like to be alone. I'd rather be alone than most anything. Of course, I'd rather be with my wife. I don't drink at all, haven't for five years. I used to run around with a pretty rough bunch of kids (boys and girls).

Q. How do you feel about Christmas?

A. I never did have a very good Christmas. It's like any other day to me. For my wife? I would buy her a diamond wedding ring if we could. . . . She doesn't have any. We wanted to be practical. We didn't have much money. Perfume? My wife doesn't use it. . . . I don't use it; I always thought of it as maybe something you'd find under a Christmas tree.

Q. What about the charge of taking money under false pretenses?

A. My mother-in-law is trying to frame me, I got the money for my wife and I gave it to her. My mother-in-law just wants to break us apart. She didn't know where my wife was, and she thought maybe she could get the authorities on me, and that way she'd learn where my wife was. My wife is with her mother now. . . . She has no other place to go.

Q. If you were granted three wishes in life, what would you want most?

A. (1) I want to see that professor in New York, to see if he can help me.
(2) I want them to leave me alone after I serve my time.
(3) I want my wife and I to live together and be happy, and everybody keep their mouths shut and leave us alone.

EVALUATION

Were the patient's problems to be considered with uncomplicated logic, the major issues would appear to revolve about society's attitudes toward the patient's adjustment. Testimony from the patient and her wife indicate the couple's feelings that they have found security and satisfaction in each other. The unwillingness of society to recognize this ad-

justment appears to have been physically disruptive to the marital relationship and has tended to create doubt and confusion in the psychologic adjustments the couple had achieved.

In defense of itself, it also seems clear that society constitutes the problem as a wilful or an unfortunate transgression of morality and law.

Underlying psychologic factors indicate that the patient's problems are of a more complicated nature. Her life-long adjustments seem to represent less an attempt to accept reality and more of a protest against it.

The patient's uncompromising fear of her father seems to have offered a provocative stimulus for the development of radical adjustments to counteract the threat. Her mother, who seemed to represent a (somewhat ambiguous) potential for warmth and acceptance for the patient, was simultaneously exposed to the predatory behavior of the brutal father. The patient's assumption of the male identity appears to represent both a defense of herself and a way of relating to the idealized mother whom she needed. Establishing herself as a male, she was somewhat enabled to escape the barbarous attentions of other males . . . like father, at the same time that she could offer herself as a protective substitute in relating to potentially supportive but vulnerable figures like the idealized mother.

The postulated underlying motivations for the patient's behavior would appear to have been persistive only in consequence of the extreme threat constituted by the father and, possibly, because of some less obvious underlying negative feelings toward the mother. The available data, particularly concerning the patient's childhood, is too sparse for clear-cut evaluational and validating purposes. It seems evident, however, that the patient's adjustment was subjected to continual harassment and denunciation. These continual attacks appear to have intensified the need to defend and assert the only type of adjustment in which she felt any degree of security and protection—that of being a male.

The sibling attitudes toward the patient were for the most part derogatory, and constituted another basis for intensifying feelings of protest and resentment. The patient's martyrism seems to represent to her the noble expression of her feelings of hurt, resentment, and resistance induced by the attitudes of society.

The problem of undertaking the role of a male appeared to represent a solution for her, but the problems of maturation in this role seem to have introduced new insecurities into her life. The patient seems to have made a sincere attempt to represent herself in every aspect of the male social role that was realistically possible. However, her own ineffectiveness in fulfilling many of the culturally defined obligations of the male rôle, society's unwillingness to accept her as a male, and the candid evidence that she was not a biologic male apparently have undermined any sense of security she might otherwise have achieved. The pressure of contrary evidence, culminating in her forcible separation from her wife and the denial of her rôle as a husband, seems to have provoked considerable underlying anxiety and uncertainty about her adjustments.

The process of maturation in the male rôle was additionally complicated by the patient's apparent underlying motivations for marital status as a husband. She needed the utilization of her marriage and her marriage partner predominantly in order to gain the support,

acceptance, and protection that she originally sought in her mother. Her own immature and incomplete psychologic growth process seems to preclude the possibility of devoting herself to the rôle of a husband in terms of any value or goal beyond her own passive–receptive needs. That the marriage was able to maintain itself at all attests to the needs of both the patient and her wife to escape from shattering, unkind realities.

It is quite possible that, unless society provides the patient the opportunity for a social or a psychologic solution to her problems, she will culminate her protest in a fantasied retribution on society through her own self-destruction.

RESUMEN

La paciente examinada en este estudio, A.C., es una mujer de 33 años de edad, que durante toda su vida se hizo pasar por hombre, socialmente. En la actualidad está legalmente casada con una mujer de 27 años siendo éste su segundo matrimonio. La paciente fué detenida por la policía en virtud de una denuncia de su madre política, quien la acusó de recibir dinero ilegalmente. A raíz de su arresto se sometió a la paciente a una serie de pruebas psicológicas. Revisando el caso de esta paciente, los autores destacan las complicaciones de tipo social creadas por el papal de la paciente en sociedad. Asumiendo la parte de un hombre, la paciente creyó que había encontrado una solución; mas a medida que se fué identificando más con su papel, fueron apareciendo nuevos sentimientos de inseguridad en su vida. El autor estima que es posible que la paciente, a menos que la sociedad le proporcione la oportunidad de solucionar social o psicológicamente sus problemas, hará culminar su protesta destruyéndose a sí misma, en simbólica respuesta a la sociedad.

RÉSUMÉ

A.C., le sujet dont il est question ici, est une femme de 33 ans qui a assumé un rôle social masculin toute sa vie. A l'heure actuelle, elle est mariée légalement à une femme de 27 ans: c'est son deuxième mariage. Le sujet a été arrêté par la police sur l'instigation de sa belle-mère, qui a accusé le sujet d'avoir touché de l'argent sous de faux prétextes. Après son arrestation, le sujet a été soumis à toute une série de tests psychologiques. L'article rapporte les résultats de ces tests. En examinant le cas de ce sujet, l'auteur met en évidence les complications sociales occasionnées par le rôle assumé par le sujet dans la société. En prenant le rôle masculin, le sujet pensait avoir trouvé une solution, mais les problèmes de maturation de ce rôle semblent avoir introduit de nouveaux éléments d'insécurité dans sa vie. L'auteur conclut en disant qu'il est fort possible, si la société n'offre pas à ce sujet la possibilité de trouver une solution sociale ou psychologique de ses problèmes, qu'il culmine sa protestation en imaginant une rétribution fantasque contre la société sous forme de suicide.

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